

UNIVERSAL
LIBRARY

OU_162715

UNIVERSAL
LIBRARY

OSMANIA UNIVERSITY LIBRARY

Call No. *582.13 T97F* Accession No. *25732*

Author *Tyas, Robert*

Title *Flowers from foreign lands*

This book should be returned on or before the date
last marked below.

FLOWERS FROM FOREIGN LANDS;

Their History and Botany,

WITH

CONCISE DESCRIPTIONS OF THEIR NATIVE REGIONS

BY

ROBERT TYAS, B.A., F.R.B.S.,

AUTHOR OF "FAVOURITE FIELD FLOWERS;" "FLOWERS FROM THE
HOLY LAND;" "FLOWERS AND HERALDRY," ETC., ETC

WITH TWELVE COLOURED GROUPS OF FLOWERS,


DESIGNED AND COLOURED BY JAMES ANDREWS.

LONDON:

HOULSTON & STONEMAN, 65, PATERNOSTER ROW.

MDCCCLIII.

LONDON:

 THOMAS HARRILD, PRINTER, SILVER STREET,
FALCON SQUARE.

ADVERTISEMENT.

IN laying before the public the pages contained in this volume, it was designed to present a work on exotic flowers, corresponding with the "Favourite Field Flowers," in which the writer endeavoured to describe the native beauties of our island, an endeavour in which he was ably assisted by the skill of Mr. Andrews in portraying and colouring the specimens selected.

Numerous valuable publications have, from time to time, given illustrations of imported flowers, but they have been generally so costly as to limit their distribution exclusively to the wealthier classes; and thus it has followed, that some who could not afford to buy such works, and others who did not feel justified in devoting to intellectual pleasure and improvement so large a sum as their purchase requires, have been debarred not only from much desirable gratification, but from the acquisition of some knowledge of the fairest vegetable productions of Foreign Lands. To

supply to such, in some measure, this gratification and the opportunity of obtaining such knowledge entered largely into our consideration, and though the number of flowers is small, and their size in some cases necessarily reduced, we yet hope that they have been acceptable to many who, by their residence in rural districts, are shut out from those great privileges of seeing living specimens of the finest and rarest plants, when brought together in floral exhibitions, which are enjoyed by residents in the metropolis and some of our large provincial towns.

CONTENTS.

	PAGE
THE WINTER ACONITE	155
ANEMONE JAPONICA	177
ALPINIA	45
THE SHOWY AMARANTH	105
THE SPREADING CAMPANULA	97
BUNGE'S ROSE CAMPION	134
CANDOLLEA	73
BROAD-LEAVED CISTUS	129
COMMELINA	142
DENDROBIUM	31
ECHEVERIA	24
SWEET-SCENTED EPIDENDRUM	14
ERICA AMPULLACEA	161
CONCRETE-STYLED FLAX	124
FUCHSIA-LIKE BEGONIA	186
WHITE-MARGINED FUNKIA	127
CRESTED GENTIAN	69
BLUE HEPATICA	168
CRIMSON HIBISCUS	10
HINDSIA VIOLACEA	181
CHINESE HYPERICUM	6
HORSFALL'S IPOMŒA	114
SCARLET IPOMŒA	174
ISMENE	61

	PAGE
JAPAN QUINCE	152
ARABIAN JASMINE	34
CURLED-FLOWERED JASMINE	138
LEADWORT	190
SUPERB LILY	19
LISIANTHUS	41
THE TRAILING LOBELIA	159
THE ELEGANT MADIA	90
MONARDA	82
SCARLET MONKEY-FLOWER	112
POET'S NARCISSUS.	171
THE NEMOPHILA	119
DRUMMOND'S OENOTHERA	37
LINDLEY'S OENOTHERA	86
ONCIDIUM PELICANUM	183
LARGE-FLOWERED PIMPERNEL	79
PITCAIRNIA	65
THE POINCIANA	1
GILLIES'S PORTULACA	108
THE CHRISTMAS ROSE	145
SIPHOCAMPYLOS	57
SISYRINCHIUM	94
STREPTANTHERA	49
TOURNEFORTIA	54

LIST OF PLATES.

THE FLOWERS DRAWN AND THE GROUPS DESIGNED BY
JAMES ANDREWS.

PLATE	TO FACE PAGE
I.	1.
The Poinciana (<i>P. pulcherrima</i>)	Golden-yellow; red filaments.
Chinese Hypericum (<i>H. monogynum</i>)	Yellow.
Crimson Hibiscus (<i>H. Rosa-sinensis</i>)	Crimson.
Sweet-scented Epidendrum (<i>E. fragrans</i>)	Yellow-green.
II.	19
Superb Lily (<i>Gloriosa superba</i>)	Orange.
Echeveria (<i>E. retusa</i>)	Red.
Dendrobium (<i>D. nobile</i>)	White and purple.
Leadwort (<i>P. Larpetæ</i>)	Blue.
III.	34
Arabian Jasmine (<i>J. Sambac</i>)	White.
Drummond's Oenothera (<i>O. Drummondii</i>)	Yellow.
Lisianthus (<i>L. Russellianus</i>)	Purple.
Alpinia (<i>A. magnifica</i>)	Red.

PLATE	TO FACE PAGE
IV.	49
Streptanthera (<i>S. cuprea</i>)	Copper.
Tournefortia (<i>T. heliotropioides</i>)	Lilac.
Siphocampylus (<i>S. bicolor</i>).	Red-yellow.
Ismene (<i>I. Macleana</i>).	White.
V.	65
Pitcairnia (<i>P. albiflos</i>)	White.
Crested Gentian (<i>G. septemfida</i>)	Blue.
Candollea (<i>C. cuneiformis</i>).. . . .	Yellow.
Large-flowered Pimpernel (<i>Anagallis fruticosa</i>)	Scarlet.
VI.	82
Monarda (<i>M. didyma</i>)	Scarlet.
Lindley's Oenothera (<i>O. Lindleyana</i>)	Pink.
Elegant Madia (<i>M. elegans</i>).. . . .	Yellow.
Sisyrinchium (<i>S. speciosum</i>)	Purple-blue.
VII	97
Spreading Campanula (<i>C. divergens</i>)	Blue-purple.
Showy Amaranth (<i>A. speciosus</i>).....	Red.
Gillies's Portulaca (<i>P. Gilliesii</i>)	Red-purple.
Scarlet Monkey-flower (<i>Minulus cardinalis</i>)	Scarlet.
VIII.	114
Horsfall's Ipomœa (<i>I. Horsfallii</i>)...	Rose.
Nemophila (<i>N. insignis</i>).....	Blue.
Concrete-styled Flax (<i>Linum monogynum</i>)	White.
White-margined Funkia (<i>F. albo-marginata</i>).....	Lilac.

PLATE

TO FACE PAGE

IX. 129

- Broad-leaved Cistus (*C. latifolius*)... White.
 Bunge's Rose Campion (*Agrostemma Bungeana*) ...Scarlet.
 Curled-flowered Jasmine (*J. revolutum*) Yellow.
 Commelina (*C. cælestis*).. Blue.

X. 145

- The Christmas Rose (*Helleborus niger*)..... White.
 Japan Quince (*Cydonia Japonica*) Scarlet.
 Winter Aconite (*Veranthis hyemalis*) Yellow.
 Trailing Lobelia (*L. erinoides*) Blue.

XI. 161

- Exotic Heath (*Erica ampullacea*) White-red.
 Blue Hepatica (*H. triloba*) Blue.
 Poet's Narcissus (*N. poeticus*) White.
 Scarlet Ipomœa (*I. coccinea*)..... Scarlet.

XII. *Title-page.*

- Japan Anemone (*A. japonica*) Pinkish-violet.
 Hindsia Violacea . Blue.
 Oncidium Pelicanum . Spotted-yellow.
 Fuchsia-like Begonia (*B. Fuchsien es*) Scarlet.

FLOWERS FROM FOREIGN LANDS.

THE POINCIANA.

Poinciana, *L.* Poincillade, *Fr.* Der Pfauenschwanz, *Ger.* Paauwekuif,
Dut. Tsietti-mandaru, *Malab.* Hoa phung, *Cochin-Ch.*

To Britain's sons, each foreign land
Yields up its treasures rich and rare,
Which, scattered with no niggard hand,
Nature permits us here to share ;
In forests thick, on wide-spread plains,
In valleys low, on mountain tops,
He finds, who heeds not toil or pains,
Whom danger nor fatigue e'er stops,
Gorgeous flowers or curious plants,
By savage, oft uncared-for, known,
While he, with burning ardour pants
To find, and make them all his own :
He brings them o'er the rolling sea,
Enchanting our unwearied sight
With beauties, which for aye shall be
A source of pleasure and delight.

THE Poinciana is an evergreen shrub, which grows with great luxuriance in its native regions, where it is very common. The branches are thickly armed with short spines, which may perhaps account for its being planted in hedges. This is very generally done in the island of Barbadoes, where, as well as elsewhere, it bears the name of Flower-fence. The inhabitants also

call it the Spanish Carnation. It must, indeed, form a most beautiful boundary line, growing as it does to the height of ten feet, and spreading its glowing golden flowers, with their showy crest, under the influence of the high temperature of that climate, which at its mean height reaches 80° , while it rarely, if ever, falls below 75° . When, therefore, we consider that the mean temperature of our own sea-girt isle is 30° lower than that of Barbadoes, and that the average heat during the summer months is 21° lower, we are fully prepared to learn that artificial means are necessarily adopted to induce this plant to grow with vigour, and display its floral beauty, in this our northern home. Accordingly, the Poinciana is made a denizen of the bark, or moist, stove, where a strong heat is needful to produce their bloom with any near approach to their natural perfection. In Barbadoes it is, as we have said, common in hedges, like our pretty hawthorn here, which blooms in beauty, and sheds its rich fragrance for rich and poor alike; but the Poinciana is with us a luxury, a highly ornamental plant not cultivated without great cost; it is therefore rare, except in the glass-houses of the wealthy, whose senses are delighted both by its beauty and its fragrance; there its seeds germinate in the rich mould, or cuttings form for themselves new roots, and put forth new foliage, until at length they well repay the care bestowed, with gay flowers from June to September.

If the reader casts an eye upon a map of the world, and carries it upwards to 13° north of the equator, and again westward of the meridian of Greenwich to between 59° and 60° , and then observes where lines

from these points, drawn west and north respectively, meet, the island of Barbadoes will be seen lying among that group of the West India Islands which are called the Caribbee Islands, and further east than any other. We do not know when it was first found, but, since the year 1625, it has been subject to the British crown, and has been one of her most highly favoured colonies, in matters spiritual as well as temporal, being divided into parishes and districts, with resident clergy sufficiently remunerated, so as to enable them to devote themselves entirely to the sacred duties of their calling. In 1824, a Bishop of Barbadoes (in communion with the Reformed Church of England) was consecrated, who had also the charge of the Leeward Islands, from which period this branch of our colonial church has had the advantage of episcopal supervision. In the order of time it is the fourth of our colonial dioceses.

There is nothing striking in the appearance of the island of Barbadoes, as seen from the sea, since, with the exception of the irregular and picturesque wildness of the north-eastern part, the surface is flat though irregular. It is liable to hurricanes, which frequently destroy life and property to a fearful extent, yet the population is comparatively large. Its size, in proportion to the Isle of Wight, is about five to four, while its population is nearly three to one of that of the latter island. The climate is said to be healthy, and also agreeable between the months of December and June, while, notwithstanding that the temperature ranges between 87° and 75° , the heat is not felt to be oppressive, by reason of the prevailing winds.

The Poinciana is also a native of the East Indies. a

name loosely applied to certain parts of Southern Asia, as Hindostan and the several islands in the Eastern Archipelago, together with India beyond the Ganges.

A very slight inspection of this beautiful flower enables us to determine its position in the Linnæan system. Its ten crimson filaments are nearly twice the length of the diameter of the flower, so that they are easily counted, and immediately place it in the class *Decandria*. The solitary style, though shorter, is equally distinct, and ranks it in the order *Mono-gynia*. The seeds are produced in a pod, or *legume*, whence it belongs to the natural order *Leguminosæ*.

Seeds of this shrub appear to have been sent into England as early as 1691, and many plants were obtained in the stove. Some gave promise of success, and even the flower-buds were formed, but they were not destined to reward the careful cultivator with their expanded bloom. Renewed attempts, however, were made with seeds sent from China, and at length, in 1758, one flowered in perfection in the stoves at Sion House, the seat of the then Earl of Northumberland.

The whole appearance of the Poinciana is striking. The leaves are of an elegant form and cheerful hue. The flowers are ranged loosely at the ends of the branchlets, close enough to form one beautiful head of bloom, and yet so far apart as to allow each flower to expand freely and be distinctly seen. The smooth flower-cups, as they are thrown open by the expansion of the buds, change their hue, and add to the effect of the glowing golden yellow of the petals, which are again enriched by contrast with the brilliant crimson of the filaments. The general effect is such, that we

are not surprised to know that the first discoverers of the flower gave it the fanciful name of the Peacock's Crest, which it very much resembles. It well deserves the superlative epithet *pulcherrima*, for it is indeed *most beautiful*, in its form, colour, and general appearance.

CHINESE HYPERICUM.

Hypericum, *L.* Le Millepertuis, *Fr.* Das Johanniskraut, *Ger.* S. Janskruid, *Dut.* Pilatro, *It.* Corazoncillo, *Sp.* Melfurada, *Port.* Swe-roboi, *Russ.*

THERE are many species in the genus *Hypericum*, as well indigenous as exotic. We have no less than twelve native kinds, with some varieties, and there are at least fifty-six natives of Europe, Asia, Africa, or America. Some of these are hardy, others require the frame or the greenhouse. The species (*H. monogynum*) under consideration requires the last, of which it is a great ornament. It is an evergreen shrub, growing to the height of about three feet, and blooming from March to September; is propagated by cuttings, and thrives in a mixture of peat and loam.

This *Hypericum* is, as its name imports, a native of China, whence seeds were brought in 1753, and in a few years many persons were in possession of plants raised from this source. We are indebted to that extensive country for numerous beautiful flowers, some of which adorn our conservatories and greenhouses, and others beautify our open gardens with their various and often perfumed blossoms. The Chinese at a very early period were entitled to rank among civilized nations; they are great lovers of nature and natural objects, and they soon displayed their dis-

position by selecting their favourites, and transferring them to their own domains. Their horticultural arrangements were made on an extensive scale, their gardens very nearly resembling our English parks. So great indeed was their love for gardens of this description that, under the dynasty of Han, remarkable for its victorious sway, they were spread over a vast extent of country, to the actual injury of agriculture, until at length the people revolted on that account. Lieu-tscheu, an early Chinese writer, tells us what were the then prevailing notions of a garden. He proposes the question, "What is it that we seek in the pleasures of a garden? Common consent has allowed that these plantations should make men amends for living at a distance from what would be their more congenial and agreeable dwelling-place, in the midst of nature, free, and unconstrained. The art of laying out gardens, therefore, consists in combining cheerfulness of prospect, luxuriance of growth, shade, retirement, and repose, so that the rural aspect may produce an illusion. Variety, which is a chief merit in the natural landscape, must be sought by the choice of ground with alternation of hill and dale, flowing streams, and lakes covered with aquatic plants. Symmetry is wearisome; and a garden where everything betrays constraint and art becomes tedious and distasteful."

The Chinese Empire is of immense extent, but that portion which we call China Proper is not more than one-fourth of the whole. It lies between 20° and 40° north latitude, and 100° and 122° east of Greenwich. Its boundary line is very irregular, but the general form

is nearly round. The inhabitants are just what they were centuries ago. Everything is done by them as their forefathers did them. They will not adopt any new suggestion, but rigidly adhere to the same costume and the same laws as existed amongst them from time out of mind. Their laws are even administered according to the same inflexible rules ; and, strange to say, the people resemble one another in their personal appearance so exactly, that we are almost unable to distinguish one from another. We shall have future opportunities of speaking more particularly of the country, its character, climate, productions, etc., but at present we shall say a few words about the greenhouse, in which we cultivate so many flowers from foreign lands.

The artist has given us faithful portraits of the flowers described in these articles, but the effect they produce upon the mind is far less than that resulting from an inspection of the living plant. It is astonishing how inaccurate often are our ideas of objects received from pictorial representations, however faithful. This is more frequently the case with respect to magnitude ; it does not happen so generally in connection with flowers ; but even with them the notions derived from inspection of the living plant with its blossom is far more clear and vivid, and then at any future time the pictorial representation at once recalls its entire character, even those minuter features, which the unaided memory is apt to lose sight of. Hence we cannot but perceive the advantage of possessing living specimens, if we desire to become more intimately acquainted with the floral productions of foreign regions. These

may be obtained and preserved at a cost comparatively insignificant, since building materials, including glass, are so much reduced in value. There are few persons, having space enough, who need deny themselves the possession of a greenhouse, which is now one of the most common of our horticultural buildings for the preservation of exotic plants. They are no longer exclusively confined to the wealthy, but one may, without fear, on the part of the owner, of being charged with undue pretensions, be attached to the humblest villa; and therefore the lover of a few beautiful exotics may gratify his taste as fully as if he had a more extended range of buildings. In a climate so far north as ours, a greenhouse carefully managed becomes a source of great pleasure in the depth of winter. There we may have a well-selected collection of healthy plants, with gay and fragrant flowers displaying themselves amid the verdant foliage, affording in the dreary season of nature's sleep a spectacle most agreeable to us; and this gratification may now be obtained at a very trifling expense.

Plants for which the greenhouse is a sufficient protection do not require to be stimulated by artificial heat; all they need is to be defended from severe frost. They are chiefly natives of the south of Europe, Southern Africa and America, China, and Australia. And it is not less true than strange that in the greenhouse, when well managed, the natives of these distant quarters of the world attain greater beauty than at home; to such an extent is nature assisted by the cultivator's skill and care.

CRIMSON HIBISCUS.

Hibiscus, *L.* La Ketmie, *Fr.* Hibiskus, *Ger.* Hibiscus, *Dut.* Ibisco, *It.*
Hibiso, *Sp.* and *Port.*

THE Chinese Hibiscus is an evergreen tree, which we seem to have received from the East Indies about the year 1731; it is very common indeed in the gardens of China, where it is considered a hedge-shrub, and consequently finds a place chiefly in the wilder parts of their horticultural plantations. Its native country is said to be unknown, but as it is of such frequent occurrence in the Indies as to propagate itself almost, we may regard it as indigenous to those regions. Loureiro, indeed, affirms that it is spontaneous as well as cultivated in China and Cochin-China also, and states that it is so common in Cochin-China that there it forms entire fences to their gardens. Hence we may well be disposed to allow its claim to be a native. That it is one of the most common and one of the most popular flowers in China, we may infer from its so generally being a principal ornament in screens and on paper-hangings imported from that country.

The Hibiscus grows to the height of ten or twelve feet, with a tree-like stem, and is very abundant in branches. The leaves, which are somewhat egg-shaped, smooth at the base, with their margins ser-

rated, and the extremity running off to a sharp point, are pretty in form, and of an extremely delicate green. The whole plant is highly ornamental in the moist stove, the heat of which, as may be supposed, is needful to bring its bloom to perfection. The flowers are of a large size; the colour is a rich dark red, or crimson, but as we look upon the flower, the petals present to the eye great varieties of shading of such elegant tints, that the flower baffles the skill of the cleverest artist to convey an exact pictorial representation, perfect in every respect. The flowers are in their full beauty in the months of July and August, although in their wild state the plant is said to bloom twice in the year, in the beginning of summer and late in the autumn. The Chinese, however, adopt a method by which they contrive to keep some plants in bloom all the summer. They take off the flowers, when their beauty begins to decline, so as to prevent them from fructifying, by which means the vigour of the plant is diverted into the formation and perfecting of other flowers, instead of being exhausted by ripening seeds.

In England those varieties which bear double flowers are generally cultivated by means of cuttings. The soil which suits this plant the best is a mixture of peat and loam, in which the former is most abundant. It is rarely seen with single flowers.

The varieties of this species of the Hibiscus (*H. Rosa-sinensis*) are the double red (*rubro plenus*), the double buff (*flavo-pleno*), the double striped (*variegatus plenus*), and the double yellow (*luteus*).

This plant belongs to the Linnæan class *Mona-*

delphia, and the order *Polyandria*; and to the natural order *Malvaceæ*. All the species in this order of showy plants contain an abundance of mucilage, as many of the same natural family do, and the bark of the woody kinds is said to be capable of being made into cordage and mats.

The Chinese Empire is rendered remarkably fertile by her river system. Far to the west of China Proper lie the sources of two splendid rivers, and there some of the tributary branches approach in their course to within a degree of each other. The Hoang-ho, or Yellow River, after a short course, turns abruptly to the north-west, and again inclines eastward, gradually proceeding to the north, where it passes through the southern portion of Mongolia, and again enters China Proper a little north of Paote-Tcheou, passing directly south until it receives the contributions of Lo Ho and several small tributary streams, when it diverges almost at a right angle and pursues nearly a straight course eastward to the North Pacific, into which it debouches at about latitude 34° . The Yang-tse-Kiang, or Son of the Ocean, runs southward to about 26° latitude, just within the western boundary of China Proper, when it runs irregularly east and north to about 28° , where it follows a course north-east to Koei-tcheou, in latitude 31° , whence it proceeds alternately south-east and north-east till it arrives at longitude 116° east, when it abruptly diverges north-east by east and debouches at latitude 32° into the North Pacific; so that these two magnificent rivers, alike both in their rise and ultimate destination, after descending rapidly from the great table lands of central

Asia, and describing a large circuit, during which they are separated in some parts of their respective courses to the extent of eleven hundred miles, terminate in the same ocean, and within less than one hundred and twenty miles of each other. Both rivers deposit large quantities of alluvial soil, of great fertilizing power; and although every means are adopted for restraining their waters within their proper course by lofty artificial embankments, they frequently burst their bounds and inundate the adjacent country, causing dismay to the inhabitants and great destruction of property. Besides these two grand rivers, there are numerous others of greater or less magnitude; all, however, contributing towards the enrichment of the soil and the prosperity of the people.

SWEET-SCENTED EPIDENDRUM.

Epidendrum, L.

THE order of plants to which this one belongs is composed of several species, which in their natural state, as their generic name implies, grow upon trees. De Theis says that they are parasites, and that they insert their little rootlets into the bark of the trees, finding their way to the sap or life-blood of the friendly tree which bears them on its branches, and thus deriving nourishment from them. If we might judge from the appearance of the trees on which they seem to thrive so well, we might imagine that the trees parted with so much of their own substance as keeps these little epidendra in health and beauty with a complacent willingness, in return for their insinuating confidence and singular ornament, or in compassion for their constitutional frailty; but modern vegetable physiologists do not agree with De Theis, for they allege (and there can be no doubt of the fact) that between the forks formed by diverging branches there accumulates, as time rolls on, a coating of soil, in which these eccentric members of the vegetable kingdom take root, and thrive to admiration. The flowers, indeed, are more to be admired for their singularity than their beauty. Less than one-half of the species are considered orna-

mental; some may be styled pretty, others curious; and that which is figured in our group has the additional recommendation of being fragrant. It is a perennial denizen of the bark stove, and puts forth its curious, fragrant, yellow-green flowers in the autumnal month October. Its lanceolate leaf rises immediately from the bulbous root. The scape is short, bearing many flowers. The tip of the flower is pointed, heart-shaped.

This species (*E. fragrans*) was imported from Jamaica in 1778, one of the most valuable of the West India Islands, forming part of the possessions of Great Britain.

The climate of Jamaica is thus described by Tulloch, in his Report on the health of the troops in the West Indies: "At about four thousand two hundred feet above the level of the sea, the temperature usually ranges between 55° and 65° ; in the winter it falls even as low as 44° . There the vegetation of the tropics disappears, and is supplanted by that of temperate regions. Showers are common in the interior almost throughout the year, but they do not fall with the same violence as in the plains, and the quantity of rain appears to be less. The air is exceedingly humid, subject to dense fogs, and those rapid alternations of temperature peculiar to all mountain regions. While the pestilence of the yellow-fever ranges in the low grounds and along the coast of this island, cutting off its thousands annually, these elevated regions enjoy a complete immunity from its effects; for that bane of European life has never been known, in any climate, to extend beyond the height of two thousand five hun-

dred feet. The inhabitants are said to enjoy a degree of longevity rarely attained in other countries, and to exhibit that ruddy glow of health which marks the countenance in northern climes, and forms a striking contrast to the pallid, sickly residents of the less elevated districts."

The recent history of Jamaica shows most remarkably the possible evils of ultra-liberalism. The words which Cowper put into the mouths of the negro-slaves forcibly appeal to every gentle thought and tender affection; and who can answer, at the moment, such a demand as this?—

" Is there—as ye sometimes tell us,—
Is there ONE Who reigns on high ?
Hath He bid you buy and sell us,
Speaking from His throne the sky ?
Hark !—He answers : wild tornadoes,—
Strewing yonder sea with wrecks,
Wasting towns, plantations, meadows,—
Are the voice with which He speaks."

Who could listen unmoved to the eloquent appeals of a Wilberforce or a Clarkson? Philanthropy, the love of human nature, prevailed, and Britain paid her twenty millions sterling to set the African free! Yet mark the result of enfranchising a race that knew not how to use freedom. Where formerly seven or eight apprentices were employed on an estate, there are not now more than one or two. The planters have suffered losses far exceeding the amount of compensation. Since 1832 not less than four hundred and fifty-six coffee, and six hundred and fifty-three sugar plantations have been abandoned, and their

works broken up. The causes of such a frightful destruction of property are stated in a Report of a Committee of the House of Assembly :—

“ From the now independent condition of the mass of the people, the command of labour has become exceedingly precarious, often not to be had at all when most wanted ; hardly in any case will the people work on estates for more than five days in the week ; in several districts they refuse to work more than four days in the week. The average time of field labour is from five to six hours a day ; the labour given for the wages is not only inadequate in quantity, but generally ill performed. On the anniversary of freedom, and at Christmas, the entire agricultural population spend from one to two weeks in idleness ; in some districts this is also the case at Easter ; at all these periods, even if the canes are rotting on the ground, and the coffee falling from the trees, no rate of wages will induce the people to work, and labour continues to become more scarce every year, by the people withdrawing from the plantations ”

Such are the effects of an ultra-liberal policy, which bestows political freedom upon those who are incapable of using it rightly. We might learn an important and useful lesson here if we would ; it is this, to cultivate the intellectual and moral powers of the human race, and to yield political freedom and power in proportion to the extent of their development. The latter too often, in modern times, are given without reference to the former conditions.

There is one very singular and ornamental species of this genus, *E. ciliare*, or fringed Epidendrum, which

is easily propagated by division of the stems. The cultivation is simple. It is planted in pots, filled with stones of a porous substance, a few leaves well decayed, and a number of knobs of bark newly gathered from the woods. Very little water is required. Sometimes their leaves turn yellow, by which we know that they have been burthened with an excess of moisture, or been subjected more than desirable to the rays of the sun. Thus treated, and the pots placed in various parts, their long tubular flowers give a lively appearance to the stove nearly throughout the year. The buds appear in succession, and by a slow process at length fully expand themselves.

This genus is in the class *Gynandria*, and order *Monandria*, of the artificial system of Linnaeus, and in the natural order *Orchideæ*.

SUPERB LILY.

*Gloriosa, L. La Méthonique, Fr. Die Prachthlic, Ger. Pragtige-Jeliepraal,
Dut. Methonika, Malabar. Junglang. Java. Nierghala, Ceylon.*

How vain is man when knowing nought !
How rarely such will e'er be taught !
He dwells mid wonders unperceived,
And all he dreads is being deceived
By those who, knowing, fain would teach
What treasures lie within his reach.

But he who knows where riches lie,
And looks, with well-instructed eye,
On those so freely spread around,
Where'er he treads his native ground,
Still feels his knowledge faint and slight,
And keenly longs for greater light.

Oh ! happy he who's learnt to be
Childlike in sweet simplicity !
Endowed with well-discerning mind
To note the false, the true to find,
And finding *that* to hold it fast,
Assured that truth alone will last.

WHEN we look upon the singular, curious, or beautiful productions of foreign regions, and mentally view the simple flowers which constitute the great bulk of our native 'Flora, we are not unlikely to reflect upon the insignificance of the productions of our own island in comparison. The island itself is indeed a mere speck on the surface of the terrestrial globe, the number of its inhabitants but a small frac-

tional part of the human race, and the consideration of these facts undoubtedly lead to the like reflections; but they seem to be more fully realized when we consider the various productions of the island, and their limited number in relation to those of other territories. For having become acquainted with various productions of foreign countries, we naturally infer the existence of an unlimited variety unknown, when they assume a magnitude of extent which we are incapable of comparing with our own. Hence it follows that every accession of information in any branch of science or of nature tends to reduce the estimate we had made of our own knowledge, and renders us more capable of increasing it, by producing within us that spirit of childlike simplicity which hesitates to reject intelligence of new facts merely because they are unknown to us. At the same time we cannot but contrast this spirit with that which influences the minds of the ignorant. We see in it a barrier to the reception of all knowledge beyond that which is forced upon them by the necessities of their own nature, or the circumstances which daily compel their attention to it; and this spirit strengthens with age, so that this barrier becomes firmer and more impassable as the persons in whom it is found advance in years. Hence we learn practically the value of simple-mindedness; and the great importance of preserving it in children, in order that their minds may present no obstacle to the reception of all that is good and beautiful both in the moral and the natural world. We would fill their minds with the love of truth; cultivate their powers of discernment; teach

them to perceive the difference between that which is false and that which is true, in the full assurance that the latter would retain a firm hold upon their heart and mind when the former had faded even from their remembrance. How many persons are there, even in enlightened England, who would be disposed to doubt the existence of the singular flower which is named at the head of this article, on seeing a drawing of it, unless they had already been acquainted with some natural production equally curious!

There are only two species of the genus *Gloriosa*, a name given to this Superb Lily, because of the glorious colour of its flowers, and the singular elegance of their form. One is called *G. superba*, and the other, which bears a blue flower, *G. simplex*. The former is a native of the East Indies, and the latter of Senegal. They are both bulbous plants, perennial and ornamental denizens of the bark stove, which they adorn with their singular flowers during the summer months of July and August. The blue-flowered species grows no higher than two feet; it was brought into England in 1756. Both species are propagated by offsets, and thrive most luxuriantly in sandy peat. They require much care in their treatment to make them flower freely. Mr. John Sweet, now deceased, who was a successful cultivator of flowers at Bristol, has recorded instructions, which he formed from his own experience, in which he says that, "when the foliage and stalks have decayed in the autumn, and left the root, like a well-ripened potato, in a dormant state, the pot in which it is must be removed from the bark-bed to a dry part of the house, at some distance

from the fire : all the warmth at this time necessary being merely what is sufficient to keep the earth in the pot free from damp ; and, to prevent the waterings of the house, or other moisture, falling on the earth in the pot, it should be covered, by inverting upon it another pot of the same size ; or if larger, it will hang over its edges, and more effectually exclude the wet. If the roots are small, two or three may be placed together in the same pot, whilst in their dormant state ; but if they are thus shifted, the mould must be well shaken down in the pot, in order to prevent the access of air to them ; the old mould in which they grew must also be used ; for fresh earth or sand would stimulate them to move too early. About the second week in March, the roots must be replanted, putting one or two, according to their size, into pots measuring six inches over. The best compost for them is fresh loam, mixed with an equal quantity of peat mould of good quality ; the loam should be good, not over rich with dung, nor too heavy. The roots are to be covered about two inches deep ; and care must be taken not to break them, unless nature has shown where it is practicable to divide them easily. The pots, when filled, must be plunged into the bark-bed, where the heat should be equal to ninety-five degrees of Fahrenheit's scale. Water is to be given very sparingly at first ; and though, as they grow, they will require a more liberal supply, yet it is necessary at all times to be very moderate in giving it. The heat must be well kept up ; and as the roots extend, they must be supported." Under such treatment as here described, a plant has been known to grow ten feet in

the course of a season, and to have numerous blossom-stems upon it. The flowers, at first, are green, and they afterwards assume those beautiful markings of yellow for which they are so much esteemed.

The *Gloriosa superba*, or Superb Lily, was imported in 1690. It belongs to the Linnæan class *Hexandria*, and order *Monogynia*, and to the natural order *Liliaceæ*.

ECHEVERIA

Echeveria, Dec.

THE name of this flower reminds us of some lines in the "Proverbial Philosophy" of Martin Farquhar Tupper, D.C.L., Oxon., wherein the learned gentleman hypothetically states the principle on which Adam proceeded, when "he gave names to all cattle, and to the fowl of the air, and to every beast of the field," when they were "brought" unto him "to see what he would call them." His hypothesis seems reasonable enough, since "whatsoever Adam called every living creature, that was the name thereof," therefore he must have been endowed with such accurate perceptive powers as enabled him to appropriate to each a suitable name. Dr. Tupper then goes on to commend the wisdom of the rustic as shown in the common names of flowers, and ridicules the conceit of philosophers, on account of the "preposterous appellatives" of plants by which they obscure the object they desire to distinguish and make known. He then lays down a rule for naming natural objects, a rule just in the abstract, but when applied, we think that Dr. Tupper himself would find it fail in countless cases. Read what he says :—

“Adam gave the name, when the Lord had made His creatures,
 * * * * *

The tree by its use, the flower by its beauty, and everything according
 to its truth.
 * * * * *

Many a flower is burdened with preposterous appellatives,
 Which the wiser simplicity of rustics entitled by its beauties,
 And often the conceit of science, loving to be thought cosmopolite,
 Shall mangle names of every clime, alike obscure to each
 There is wisdom in calling a thing fitly: name should note particulars
 Through a character obvious to all men, and worthy of their instant
 acceptance.

The herbahst had a simple cause for every word upon his catalogue,
 But now the mouth of Botany is filled with empty sound;
 And many a peasant hath an answer on his tongue, concerning some
 vexed flower,

Shrewder than the centipede phrase, wherewithal philosophers invest it.”

Although Dr. Tupper's peasants are shrewder and more wise in their simplicity than those it has been our lot to catechise, concerning the flowers which deck their native fields, there is much deserved rebuke in his observations on the absurd names by which many exotics are designated. Who could form any idea of the *Echeveria* from its name? And when we are told that it is named after Echeveri, a botanical draughtsman, how much wiser are we? We know nothing more of the character or qualities of the plant. Botanists, authors, patrons, gardeners, florists, collectors, draughtsmen, nobles, generals, actresses, are all sought to be immortalized by attaching their name to some unlucky plant which first falls into the hands of an enthusiast who thinks more of his friend, his patron, or himself, than he does of the plant. We shall undoubtedly need a biographical dictionary of these immortal personages for the present generation; for the next, indeed, what a hoard of biographical facts will

be hid in the not-to-be-pronounced names of some of the most beautiful of foreign flowers.

The *Echeveria* is a shrub of fleshy substance, which enables it to grow and thrive in the dry and rocky habitat where nature has allotted it to spring up. It was discovered by Mr. Hartweg, one of the collectors of exotic plants for the Horticultural Society, displaying its rich coloured flowers upon rocks near Anganguco, in Mexico. It was received in England early in the year 1846, and is a very pretty species of the genus. It is a greenhouse plant, of a dwarf habit, and in this country enlivens our collection during the dull wintry months from November, and continuing in bloom until the early spring in April. It flowers very freely, in compact panicles, the corolla being inserted on the flower-cup, five-parted, and the teeth sharp. The corolla is erect, and of much greater length than the calyx, keeled and protuberant at the base, the outside being of a rich orange-red, and the inside and margin of a light yellow.

Mexico is an extensive country, forming the southern part of North America, its most southern point touching the fifteenth parallel of north latitude. It is supposed to be equal in extent to one-third of the whole of Europe. Its surface is much varied, and this is conceived to be the cause of the singular variety of climate which is observed in it. Indeed this variety has led to the division of Mexico into three regions, which are respectively named the hot, the temperate, and the cold regions, which fact prepares us for the remarks of Humboldt, that "there is scarcely a plant in the rest of the world which is

not susceptible of cultivation in one or other part of Mexico ; nor would it be an easy matter for the botanist to obtain even a tolerable acquaintance with the multitudes of plants scattered over the mountains, or crowded together in the vast forests of the Cordilleras." The same venerable writer tells us that an acre of land planted with bananas will yield sufficient food for the maintenance of fifty persons ; while the same plot of land in Europe would not produce enough wheat to sustain two. The inhabitants have, therefore, a great inducement to idleness, since the labour necessary to secure this ample provision consists only in cutting off the stems when the fruit has ripened, and in digging slightly round the roots of the trees once or twice in the course of the year. Hence, according to Humboldt, an European is struck with the utmost astonishment by the small size of the patches of cultivated ground around cabins swarming with children.

The following description of the wretched condition of the inhabitants of the hot regions, by M. Chevalier, is well calculated to make Europeans content with their less productive soil. He says that " Mexico is a country so rich, that famine scarcely visits even the most indolent. In the *tierras calientes*, or hot regions, and even on the plateau, the natives are content to dwell with their families in a cabin of bamboo trellis-work, so slight as scarcely to hide them from the stranger's gaze, and to sleep either on mere mats, or at best on beds made of leaves and brushwood. Their dress consists simply of a pair of drawers, or petticoat, and a dyed woollen garment, which serves for a cloak by day and a counterpane by night. Each has his

horse, a sorry beast, which feeds at large in the open country ; and a whole family of Indians is amply supplied with food by bananas, chili, and maize, raised almost without labour, in a small enclosure round the hut. Labour, indeed, occupies but a trifling portion of the Indian's time, which is chiefly spent in drinking *pulque*, in sleep, or in singing to his wretched mandoline hymns in honour of Nôtre Dame de Guadeloupe, and occasionally carrying votive chaplets to deck the altar of his village church. Thus he passes his life in dreamy indifference, and utterly careless of the ever-reviving *émeutes* by which the peace of Mexico is disturbed. The assassinations and robberies which the almost impotent government allows to be committed with impunity on the public roads, and even in sight of the capital, are to him only matters for conversation, the theme of a tale or a ditty. And why should he trouble himself about it? Having nothing in the world but the dress in which he stands, his lance, spurs, and guitar, he has no fear of thieves ; nor will the poniard of the assassin touch him, if he himself, drunk with pulque or chingarito, do not use his own."

Such the country where the *Echeveria* spontaneously springs up and spreads its glowing flowers to the eye of day, and such the character of the people whose lot it is to look upon such rich specimens of Nature's works. The fleshy nature of the lead-coloured stems of this plant renders it well suited to the rocky character of its native soil. The different species of the genus are more or less ornamental. They vary also in their habit ; some being shrubby, others dwarf and herb-like in their growth. All grow freely, and though

unable to bear the open air unprotected, a greenhouse is a sufficient asylum. Their succulent or juicy nature renders careful watering essential, and particularly at the season of blooming. It is necessary that the soil should be very porous, being artificially made so, in order that it may never be heavy or sodden. They need an ample supply of water when they begin to grow, and until they have attained their full growth. The compost in which they may be planted should be formed of what is known as sandy loam, or pure loam, with an admixture of sharp sand, so as to render the soil somewhat porous. A quantity of this mixed with pounded bricks, or charcoal broken up into small pieces, in the ratio of three to one, will suit them well; and as they increase in size, they should be placed in pots of moderate dimensions, fitted with a good drainage of charcoal or potsherds. During the period of growth, the plants may be put in a light and airy part of the greenhouse; but when their growth is completed, they must be transferred to a dry sunny spot. Here they should be watered sparingly, which will check their growth, and hasten their blooming.

These plants are easily propagated by the leaves. Those which grow on the flower-stem especially possess such vital energy that, when they fall on the surface of the soil and are allowed to remain there, they quickly become young plants. When intentionally propagated, the base of the leaf should be but lightly inserted in a pot of very sandy loam, and the surface be moistened just sufficiently to keep it damp. If this be observed, they are sure to form roots and plants.

The Echeveria is in the class *Decandria*, and order *Pentagynia* of the Linnæan system, and in the order *Crassulaceæ* of the natural system. The species portrayed in our group is called *retusa*, because the lower leaves, when old, are hollowed out at the base.

DENDROBIUM.

How infinite is the variety of flowers with which the earth is decked and beautified! and yet how remarkably indifferent is the mass of mankind to the existence of such variety. They look upon the Primrose, it is a flower, and that is all with them. They look upon the Celandine, the various species of *Potentilla*, the different kinds of the *Ranunculus*, and they are all Buttercups. They see the *Geraniums*, the *Cacti*, the *Fuchsias*, and to them they are simply flowers, differing indeed in appearance; but how rarely suggesting to those who look upon them any idea or train of thought. They never think where they came from, how they first came into existence, nor reflect upon the wonderful power and wisdom of the Being Who must have created such an endless variety of floral beauty. They never think of the omniscience displayed in the adaptation of the organization of each to the respective climates and localities which they were formed to adorn and benefit. Truly did the poet write when he pointed out, in the following lines, the instruction conveyed by flowers:—

“ There is religion in a flower;
 Its small, still voice is as the voice of conscience;
 Mountains and oceans, planets, suns, and systems,
 Bear not the impress of Almighty Power

In characters more legible than those
Which He hath written on the tiniest flower,
Whose light bell bends beneath the dew-drop's weight."

Why was the *Dendrobium* made to climb and twist its long, round, and taper pendulous stems around the branches of living trees in the wild woods of East India? Why does it throw its long shoots, after the manner of the English Mistletoe, from its elevated position in pathless forests? Look at its beautiful oblong leaves notched at its extremity. Mark its twin flowers with the oval segments (sepals) of the flower cup, and the pale white petals formed like them, but of larger dimensions and tipped with a light purple-pink tinge, and the rich labellum, the front segment of the flower, dyed without and within with a deeper purple. All this beauty of form and harmonious blending of colour are bestowed upon a flower which spreads its beauty where seldom human eyes behold it. Yes, and not only are the flowers very beautiful, but those of some of the genus yield a powerful fragrance, thus proving the truth of Gray's lines,

"Full many a flower is born to blush unseen,
And waste its sweets upon the desert air ;"

and who can tell why such beauty and such fragrance combined are placed where only the feathered fowl and the wild beasts of the forest dwell?

The *Dendrobium nobile*, so named by Lindley, was brought from China in 1836. It is a pretty flowering perennial, and inhabiting the bark-stove. Its usual height is about two feet. It blooms in February, and

is of a greenish-yellow and purple. All the species of this genus may be cultivated without difficulty by being set in a light vegetable earth. They are planted by some cultivators, occasionally, in baskets among damp moss, but they do not thrive so well when thus treated as when planted in earth. They belong to the Linnæan class *Gynandria*, and order *Monandria*, and to the natural order *Orchideæ*.

ARABIAN JASMINE.

Jasminum Sambac, *W.* *Le Jasmin*, *Fr.* *Der Jasmin*, *Ger.* *Jasmyn*, *Dutch.*
Il Gelsomino, *It.* *El Jazmin*, *Sp.* *O Jasmin*, *Port.* *Jasmin*, *Arab.*,
Dan., and *Swed.*

“How lovelily the jasmine flower
 Blooms far from man’s observing eyes;
 And having lived its little hour,
 There withers—there sequestered dies!
 Though faded, yet ’tis not forgot;
 A rich perfume time cannot sever
 Lingers in that unfriended spot,
 And decks the jasmine’s grave for ever.

Thus, thus should man who seeks to soar
 On Learning’s wings to Fame’s bright sky,
 Far from his fellows seek that lore,
 Unheeded live, sequestered die.
 Thus, like the jasmine, when he’s fled,
 Fame’s rich perfume will ever keep,
 Lingering around the faded dead,
 As saints that watch some infant’s sleep.”

RYAN.

THE Arabian, or as some call it, the Indian Jasmine, from its being brought from the East Indies, is a weak, not very attractive, and an irregularly-growing shrub, yet it is said to be very ornamental to its native forests, where, rising among thickets, it rests its slender branches upon the boughs of trees of more sturdy growth, and thus elevates them to the height of twelve or fourteen feet, adorned with numerous flowers, and covered with an agreeable verdure. With

us the leaves are often pale through lack of air, but there, where it "blooms far from man's observing eyes," and breathes its perfumes to the wind, the leaves have all their full and glowing foliage. The stalks are somewhat hairy, diverging wildly, but agreeably, forming obtuse angles. The leaves, which are deeply ribbed, are of a firm substance, and the countless flowers are of a snowy whiteness.

The flowers are clustered together at the extremities of the branches. The flower-cup has eight narrow and sharp-pointed divisions, which increase in length after the flowers are faded. The flower is tubular, divides into eight or nine pointed segments, and grows most luxuriantly. Each segment rises from the top of the tube, with a bearded base, which wears off as they increase in number and in length. They scatter a most exquisite fragrance, and are highly esteemed both in the East and West Indies. It is said to have grown in the garden of Hampton Court at the end of the seventeenth century, but being lost there, was known in Europe only in the garden of the Grand Duke of Tuscany, at Pisa, where the plant was placed under guard, that no cuttings might be purloined. Such is the statement made by Evelyn in his *Memoirs*, as edited by Bray. In the year 1738, it was again introduced into England, a plant being sent to Miller, and it is now a common greenhouse shrub.

This must not be confounded with the common Jasmine (*J. officinale*), which is such an universal favourite as a wall shrub. When this tree is in full bloom against a house, where also the white and red roses spread their beautiful flowers, and the two

mingle their fragrance together, we can conceive nothing more charming. The yellow Jasmine is also equally beautiful, and we are disposed to think equally hardy.

This fragrant flower belongs to the Linnæan class *Diandria*, and order *Monogynia*, and is in the natural order *Jasmineæ*.

DRUMMOND'S CENOTHERA.

Cenothera, *L.* *L'Onagre*, *Fr.* *Tweejaarige*, *Dutch.* *Idegen Sárga Viola*,
Hung.

“ O happy flowers, that while the dews of night
Are falling fast around ye, open wide
Your paly leaves beneath the cold moontide,
As cheerfully as when the rathe daylight,
With sparkling drops and orient hues bedight,
Calls forth your fresh and innocent breath of praise—
Ye teach me in your beauty how to raise
The unwearied hymn, and ever in the night
Of ceaseless adoration be employed.
Ye bid me heavenward gaze in dreary hour,
Not less than when my soul is fully cloyed
With sweets of life and boon prosperity.
Expand thyself, ye say, in all thy power
Of changeless faith, and ever live as we.”

H. C.

THIS ornamental flower belongs to the same genus as the evening primrose, to which these lines are addressed, and which flower is universally known and admired. The name is given to this genus from the peculiar property of the roots of the evening primrose (*O. biennis*), which are used at dessert, as incentives to wine-drinking, as olives are; and hence *Cenothera* is formed from *oivos*, wine, and *ἵνρω*, to hunt. We do not know whether the roots of *Cenothera Drummondii* have the same qualities, but the flowers of

the two have a close resemblance. The plants, however are very dissimilar; the evening primrose is a deciduous herbaceous plant, and grows to the height of four feet, displaying its bright yellow flowers in the open garden from June to September. Drummond's *Oenothera* is an evergreen trailer, perennial, and requiring confinement to the frame, of which it is a great ornament, and where it blooms with yellow flowers in the months of August and September, rarely elevating itself more than six inches from the ground. They are both natives of the continent of America, the former having been imported from North America as early as 1629, the latter from Texas, so late as 1833.

Texas has within the last few years been annexed to the United States of America. The whole country has an inclination to the east, and numerous rivers traverse its surface in a south-easterly direction. Along the coast, which is washed by the waters in the Gulf of Mexico, is a level tract of land, varying in breadth from thirty to one hundred miles; this is free from the stagnant marshes so common to like localities, although the river banks are fringed with woods, inclosing wide pasture-lands of unusual richness. From one hundred and fifty to two hundred miles further inland, lie extensive prairies clothed with grassy verdure, interspersed with plots varying in extent, on which huge timber-trees rear their heads aloft in thick array. Beyond this lies the mountain district in the south-west; it includes the Sierra Guadalupe, part of the Mexican Alps, and a desert tract at the base of the mountains.

A fertile soil and a healthy climate are claimed for

Texas. The grass grows luxuriantly, and includes several varieties; there is also wild rye and clover, so that the pasturage is said to be excellent. There is no lack of timber, whether for use or ornament. Live oak (*Quercus sempervirens*), of such value to the ship-builder, is of better quality and more plentiful than that of any other part of America. The acacia, the elm, the ash, cypress, caoutchouc, etc., are among the common trees, and among the mountains are cedar and pine of superior quality. Nearly all the fruits of temperate climates are abundant, including oranges, lemons, and grapes. Shrubs and plants, of great value in medicine and the arts, as well as simply ornamental productions, render the flora of Texas as singularly interesting as it is extensive.

If we could believe all the glowing accounts which are given of the climate, the soil, and the productions of Texas, we should be disposed to recommend, with earnestness, to cultivators of the soil who do not object to a republican form of government, and who think all hope of prosperity in England must be abandoned, to migrate into that country, since it seems so peculiarly eligible for their purpose. A Mr. J. Kerr states, that the climate predisposes residents to luxurious indolence, and says that the settler "will have much greater reason to be on his guard against this agreeable poison, than against that of the *anguis in herba*." The same author gives the following description of husbandry operations:—"The modes of husbandry in Texas are of the most simple description. The first object of the farmer, after building a small and temporary log-house, is to enclose a sufficient space of the

open land adjoining, by the erection of a rail-fence; he then proceeds to break up the land with a light plough, which is usually drawn by oxen. A yoke of large oxen, broken, is worth from thirty to sixty dollars; a horse, for general agricultural purposes, about twenty dollars. The Texan farmers generally content themselves with one ploughing previous to planting. Manuring is altogether dispensed with. The seed-time for maize, cotton, and most other crops, is in February and March. A few hoeings to destroy weeds, to thin and to earth up the young plants, is all that is required on the part of the farmer to bring them to perfection."

It is in this highly-favoured land, as regards climate and fertility, that this species of *Oenothera* blooms in native beauty. It takes its place in the artificial system of Linnæus, in the class *Octandria*, and order *Monogynia*, and in the natural system it belongs to the order *Onagraricæ*.

LISIANTHUS.

THIS plant belongs to a genus whose species are not only ornamental, but possessed of medical properties of considerable value. Their generic name, indeed, is said to be formed from *λυσις*, dissolution, and *ανθος*, a flower, because of its virtue in dissolving humours. The value of plants in medicine is acknowledged by all persons, but many of them have been rejected by the practitioner for other medicines, which he deems more powerful in producing like results. Yet, in remote parts of England, where medical skill is not very highly valued, we sometimes find great effects produced by the use of plants medicinally, especially in outward applications. It may be that the people have little confidence in modern science, and being sceptical as to the skill of their medical attendant, hesitate and then neglect to follow his instructions, when, it is not unlikely, the desired effect is not produced. Then they return to the known remedy, which, though slower in its operation, is yet more sure, because all, and perhaps more than all, the necessary care is taken in the use of it. Wonderful, indeed, is the value of the vegetable kingdom to man : the more we penetrate its mysteries, the greater is our amazement, and the higher our adoration of that

Infinite Power Who created and perpetuates the natural world. To those who undervalue nature, we would recommend the perusal of Sir R. Blackmore's poetical exhortation :—

“ Your contemplation farther yet pursue ;
 The wondrous world of vegetables view !
 Observe the forest oak, the mountain pine,
 The towering cedar, and the humble vine ;
 The bending willow that o'ershades the flood,
 And each spontaneous offspring of the wood !
 The oak and pine, which high from earth arise,
 And wave their lofty heads amidst the skies,
 Their parent earth in like proportion wound,
 And through crude metals penetrate the ground ;
 Their strong and ample roots descend so deep,
 That fixed and firm they may their station keep,
 And the fierce shocks of furious winds defy,
 With all the outrage of inclement sky.
 But the base brier and the noble vine,
 Their arms around their stronger neighbour twine.
 The creeping ivy, to prevent its fall,
 Clings with its fibrous grapples to the wall.
 Thus are the trees of every kind secure,
 Or by their own, or by a borrowed power.
 But every tree from all its branching roots,
 Amidst the glebes, small hollow fibres shoots ;
 Which drink with thirsty mouths the vital juice,
 And to the limbs and leaves their food diffuse ;
 Peculiar pores peculiar juice receive,
 To this deny, to that admittance give.
 Hence various trees their various fruits produce,
 Some for delightful taste, and some for use.
 Hence sprouting plants enrich the plain and wood,
 For physic some, and some designed for food.
 Hence fragrant flowers, with different colours dyed,
 On smiling meads unfold their gaudy pride.
 Review these numerous scenes, at once survey
 Nature's extended face, then, sceptics, say,
 In this wide field of wonders can you find
 No art discovered, and no end designed ?”

The species of the genus *Lisianthus* which were

known to us before the one which is figured in our group were from the West Indies, three of the four being from the island of Jamaica, the first having been imported as early as 1793. This new species was brought from Mexico in 1835, and is named by Sir W. J. Hooker, *Russellianus*, in compliment to the late Duke of Bedford. It is an ornamental annual, and is a great accession to the greenhouse, where it attains the height of about three feet, and displays its handsome purple flowers in July and August. It is, of course, propagated by seeds, and thrives well in loam and peat, the former abounding. The plant is smooth, having its surface of a decided hoary grey. The leaves are placed opposite to one another, and joined together at the base. Their form is ovate or oblong, egg-shaped; three to five-nerved, very sharply pointed, passing into subulate bractæ at the base of the footstalk of the flower. The calyx is deeply cut into five divisions.

In preparing compost for greenhouse plants many mistakes have been made, and much mischief done, by using the wrong materials. Thus as peat is dug out of bogs for fuel, that soil has been thought to be the peat-earth recommended for plants; whereas the proper peat-earth is the surface-turf cut from a dry moor or waste, where British heaths are found in a wild state, which is dry, and mixed with a considerable portion of coarse white sand. This, chopped as finely as possible with a spade, but not sifted, is found to be the most suitable for mixing in the compost prepared for the generality of exotic plants.

The *Lisianthus Russellianus* (Duke of Bedford's

Lisianthus) is in the Linnæan class *Pentandria*, and order *Monogynia*; and in the natural order *Gentianeæ*. The flower is four times the size of the drawing in the group.

ALPINIA.

" Some flowery spot, sequestered, wild, romantic,
 That often must have seen a poet frantic ;
 Where oaks, that erst the Druids knew, are growing,
 And flowers, the glory of one day, are blowing,
 Where the dark-leaved laburnum's drooping clusters
 Reflect athwart the stream their yellow lustres,
 And intertwined the cassia's arms unite,
 With its own drooping buds, but very white.
 Where on one side are covert branches hung,
 'Mong which the nightingales have always sung
 In leafy quiet ; where to pry, aloof
 Atween the pillars of the sylvan roof,
 Would be to find where violet beds were nestling,
 And where the bee with cowshp bells was wrestling."

KEATS.

WERE a lover of nature to find such an enchanting spot as the poet describes above, his joy could scarcely exceed the delight of the botanist who first met with this species of *Alpinia*, which is " one of the noblest plants" in Flora's kingdom. The size of our plate does not permit us to display it in its full magnitudẽ. The beholder must look upon it with an imagination capable of magnifying it four times, for such is the proportion it bears to the living flower. It is indeed a splendid flower, and is a magnificent ornament of the bark-stove, growing to the height of ten feet, and being also perennual. It displays its immense flower in the month of August, in colours of glowing red. It

was brought to England in 1830, from the Mauritius. It is propagated by division of the roots, and thrives best in rich loam. The leaves are not numerous, and are of an acute oblong form. The bractees are of a fine, deep, rosy red colour, a white line being drawn round the margin. The genus is named after Prosper Alpini, an Italian physician and botanist, who practised at Cairo, between the years 1580 and 1584. He died in 1615.

The Mauritius is an island in the Indian Ocean, well known as the scene of St. Pierre's tale of Paul and Virginia. The St. Geran was wrecked here in August, 1744, and gave rise to the striking incident so affectingly described in that beautiful story. At that time it was in the possession of the French, and known as the Isle de France. Tulloch gives the following graphic description of the island: "From whatever quarter it is approached, the aspect is singularly abrupt and picturesque. The land rises rapidly from the coast to the interior, where it forms three chains of mountains, from eighteen hundred to two thousand feet in height, intersecting the country in different directions. Except towards the summit, these are generally covered with wood, and in many parts dip into deep ravines, through which numerous rivulets find their way into the low grounds, and terminate in about twenty small rivers, by which the whole line of coast is well watered, from the foot of the mountains to the sea. Though, from its mountainous and rugged character, a great part of the interior is not available for any useful purpose, yet extensive plains, several leagues in circumference, are

to be found in the highlands; and in the valleys, as well as along the coast, most of the ground is well adapted either for the ordinary purposes of agriculture, or for raising any description of tropical produce. Extensive forests still cover a considerable portion of the districts of Mahébourg, the Savanna, and Flacq; and in the centre of the island are several small lakes. The soil, in many parts, is exceedingly rich, consisting either of a black vegetable mould or a bed of stiff clay of considerable depth; occasionally the clay is found mixed with iron ore and the *débris* of volcanic rock. In the neighbourhood of Port Louis, and generally in the immediate vicinity of the sea, there is but a scanty covering of light, friable soil over a rocky surface of coralline formation. The whole coast is surrounded by reefs of coral, with the exception of a few openings, through which vessels can approach the shore. There is a marked difference in the climate of this island in different situations; the windward (or south-east) side enjoying a lower temperature by several degrees than the leeward (north-west), owing to the cooling influence of the south-east breeze, which prevails during most parts of the year."

"In so far as regards temperature, rain, physical aspect, and diversity of climate, this island exhibits a very striking resemblance to Jamaica; though, being south of the line, the seasons are reversed, summer extending from October to April, and winter during the rest of the year. Hurricanes are of frequent occurrence, and create great devastation, with much loss of life. So far as can be ascertained from the statistical returns of the island, the climate does not

exert any prejudicial influence on the health of the white resident population, though it is by no means favourable to the negro race."

The *Alpinia* belongs to the Linnæan class *Monandria*, and order *Monogynia*, and to the natural order *Scitaminæ*.

STREPTANTHERA.

The valley's bed and mountain height.
 By blooming flowers seem more bright.
 The verdure of the dell receives
 An added beauty from the leaves
 Of plants succeeding, ever new,
 As changing seasons change their hue :
 When first they spring forth from the ground,
 Of palest green the leaves are found,
 But soon there comes a deeper shade
 Where waving beams of light have played :
 And, here and there, fair buds are seen,
 With tints of colour traced between
 The opening segments of the cup,
 In which its beauty's folded up,
 Until that moisture, air, and light
 Spread forth its painted petals bright.
 And now, the mountain top behold,
 Where scorched by heat, or checked by cold,
 The vegetation lies embrowned,
 And blighted seems it all around ;
 But lo, the clouds, with treasure filled,
 Refreshing waters have distilled,
 And herbage green now clothes the mount,
 And many plants we there may count,
 Which shortly in rich colours gay
 Their varied blossoms will display.

THE *Streptanthera*, which is a bulbous-rooted frame
 perennial, first became known to us in the year 1825,
 when it was brought from the Cape of Good Hope.
 It is of a dwarf habit, the average height being about
 nine inches, but yet it is very ornamental. Its leaves
 are ensiform, or sword-shaped, acute, and terminating

with a sharp point, the surface being relieved by numerous furrows or channels. The scape, by which name is designated the stem that bears flowers only, is smooth, and generally puts forth from two to four buds. The flower itself, called the perianth, because the corolla cannot be distinguished from the calyx, is divided into six parts or segments; it is of a rich copper colour, and the anthers being twisted (*streptos*) round each other have indicated the name by which it has been called. When we speak of it as the *Streptanthera*, we use what may be called an elliptical expression for *Flora streptanthera cuprea*, that is, "the copper-coloured species of the flower with twisted anthers." It blooms in June and July, and has been found to thrive best in sandy peat. It is propagated by offsets.

The Cape of Good Hope is a well-known promontory near the extreme south point of the continent of Africa. Bartholomew de Diaz, a Portuguese commander, is said to have been the first European who discovered it. It was in 1486 that he saw it, for his ships being in bad condition and the crews insubordinate, the winds at the same time being violent and adverse, he did not succeed in landing. Diaz appears to have been greatly disappointed, and the name by which he designated it seems at once to express his chagrin, and to record the tempestuous state of the elements, and as well perhaps the turbulent temper of his men. He called it the Stormy Cape (*Cabo Tormentoso*); but John II., then the reigning monarch of Portugal, under the conviction that it was the remotest point of Africa in the south,

which they had long sought to gain, called it *Cabo di Buena Esperanza*, of which the name, by which it is known to us at this day, is a simple translation. Vasco de Gama doubled the Cape in 1498, and thus was opened a new route to India.

The Cape Colony has been brought constantly before us of late years, owing to the frequent recurrence of war with the Kaffirs. And we know much more of the character of the country and the people through the deeply interesting journals of the Bishop of Cape Town, who was consecrated in 1847. With horses and cart and servants, he went the circuit of his extensive diocese. Sometimes riding, often walking, he went from one station to another; generally he was well received; occasionally hospitality was refused, when, as frequently at other times, he passed the night under a temporary shelter. At different places the way was nearly impassable, and the frail cart would give way; here the descent was so difficult that its progress needed to be checked; there the ascent so arduous as to render every assistance necessary, when the bishop himself was compelled to remove his coat and use his best physical strength. To any who feel desirous of knowing what the Church is doing in the colonies, these journals are full of gratifying information, and they will well repay perusal to all.

The Cape country is divided by chains of mountains into three plateaus, each of greater elevation than the other, as it is more remote from the sea. The first chain runs east and west, and is called Long Pass, or Lange Kloof. It encloses, between it and

the south coast, a belt of land, of irregular form, from twenty to sixty miles wide, covered with a fertile soil of considerable depth, which is well covered with herbage and small fruit-bearing, arborescent plants. Several bays indent the coast, many small streams fertilize the land, and numerous forest trees adorn many parts. The whole is well watered by frequent rains, and the temperature is milder and more equable than that of the interior.

The Great Karroo, which is further inland, is a dry and desert plain, nearly three hundred miles long, and varying in breadth from eighty to one hundred miles. Rain rarely falls in this region, dews are seldom observed, and vegetation consequently is at times scanty in the extreme; in summer there is scarcely any, for then the earth is baked until nearly as hard as stone. The courses of temporary rivers are fringed by plants of the mimosa, but elsewhere neither tree nor bush nor even a blade of grass can be found to refresh the eye. Low, stunted shrubs resembling heath; many species of the fig-marygold, and ice plants, asters, etc.; some kinds of prickly euphorbia and other succulents; bulbs, the nature of which protects them during the long droughts, seem alone able to retain vitality in this arid land. In the dry season even these resemble nought but parched stubble, scattered thinly over the hardened ground; but in the early spring, when the little rain which refreshes this waste begins to fall, these plants push forth hastily into life, and countless flowers deck the wilderness with beauty. The whole country seems transformed as by an enchanter's wand into one vast flower-garden, and then

the settlers in the Dutch colonies on the alpine heights, whose farms are chilled by frosts and mountain blasts, drive their herds and flocks to pasture on the short-lived vegetation of the Karroo.

Such is the country where the *Streptanthera* displays its flowers in a state of nature, and from whence we have obtained many beautiful additions to our conservatories. The *Streptanthera* is in the Linnæan class *Triandria*, and order *Monogynia*, and in the natural order *Irideæ*.

TOURNEFORTIA.

THIS plant is named by Hooper after Joseph Pitton de Tournefort, who was the author of an elegant arrangement of plants, and is allowed to be the father of the French school of botany. The system of Jussieu is founded upon the above-mentioned work, or we may rather more correctly regard it as an adaptation of the system of Tournefort to the then actual condition of the science. There are several species of this genus, but this one, from the manner of its efflorescence being like that of the Peruvian Heliotrope, which is an universal favourite, is called *heliotropioides*, or Heliotrope-like Tournefortia. This species is an evergreen under-shrub, and requires the peculiar atmosphere of the bark or moist stove to bring it to perfection in this climate. It possesses an ornamental appearance, grows to the height of two feet, with a somewhat shrubby stem, throwing out hairy herbaceous branches, clothed with blunt elliptical leaves. Its pale lilac flowers begin to unfold themselves gradually in the month of May. The plant is propagated by cuttings, and thrives well in loam and peat.

The *Tournefortia heliotropioides* was first imported into England in 1829, from Buenos Ayres. The province so named has been called "the region of thistles

and clover." The country going inland from Buenos Ayres, which is a maritime city of South America, and the capital of the republic of La Plata, is covered with clover and thistles alternately for at least one hundred and eighty miles. Head, in his "Journey across the Pampas," gives the following graphic description of this portion of La Plata. He says it "varies with the four seasons of the year in the most extraordinary manner. In winter, the leaves of the thistles are large and luxuriant, and the whole surface of the country has the rough appearance of a turnip field. The clover in this season is extremely rich and strong; and the sight of the wild cattle grazing in full liberty on such pasture is very beautiful. In spring, the clover has vanished, the leaves of the thistles have extended along the ground, and the country still looks like a rough crop of turnips. In less than a month the whole region becomes a luxuriant wood of enormous thistles, which have suddenly shot up to a height of ten or eleven feet, and are all in full bloom. The path is hemmed in on both sides; the view is comparatively obstructed; not an animal is to be seen; and the stems of the thistles are so close to each other, and so strong, that, independent of the prickles with which they are armed, they form an impenetrable barrier. The sudden growth of these plants is quite astonishing; and though it would be an unusual misfortune in military history, yet it is really possible that an invading army, unacquainted with the country, might be imprisoned by these thistles before it has had time to escape from them. The summer is not over before the scene

undergoes another rapid change ; the thistles suddenly lose their sap and verdure, their heads droop, the leaves shrink and fade, the stems become black and dead, and they remain rattling with the breeze one against another until the violence of the pampero, or hurricane, levels them with the ground, where they rapidly decompose and disappear ; the clover rushes up, and the scene is again verdant."

The *Tournefortia heliotropioides* is in the Linnæan class *Pentandria*, and order *Monogynia*.

SIPHOCAMPYLOS.

THIS pretty plant is a native of Georgia, whence it was imported in 1835. It is a deciduous under-shrub, attaining the height of about three feet, and displaying its gay flowers in the month of April; they are red and yellow, on which account this species has been named *bicolor*. It is propagated by cuttings, and grows well in sandy peat. The species of this genus have all large, showy scarlet, or red flowers, and well deserve a place in every stove. Their culture is very easy. A compost formed of peat, turfy loam, and sand is best suited to them; and in this cuttings readily strike under a hand-glass in heat.

Trees, shrubs, and herbaceous plants from the tropics require to be treated artificially in our northern climate, and for their preservation and cultivation the stove has been found by experience the best. There are different modes of heating the stove: smoke, steam, hot-water flues or pipes, are variously used, and they are so arranged that any amount of heat that may be necessary can be sustained, however low the temperature of the external atmosphere may have fallen. A large portion of the middle of a stove-house is occupied by a pit, formed by four dwarf brick walls; this is filled with

different materials which decompose and ferment under the influence of moisture and heat, such as the leaves of trees and refuse bark from the tan-yard, and which give out continually a considerable degree of moistened heat, which yields great nourishment to the plants first set in pots, which are then placed upon or plunged in this fermenting bed. This bottom heat, as it is called, is needful to force and grow to maturity tropical fruits; for other plants it is not thought so essential, but is found advantageous when it is desired to stimulate them into vigorous growth to hasten their blooming. It is remarked by some that the torrid zone is thus too closely imitated by subjecting hot-house plants to this bottom heat; yet, as numbers of them do not display their beauty without such artificial stimulus, it is desirable to have a tan-pit, to be used at discretion, especially since we can rely upon it as a certain means of additional heat.

Stoves are built of various forms; generally they are low, shed-like erections, with a frontage to the south, and of small dimensions, so that they may be heated at the lowest cost of fuel. They may be of any form, according to the owner's fancy, so that they are made capable of being kept warm enough in cold weather.

As the *Siphocampylus* is a denizen of such a habitation, it may not be unsuitable to add some remarks on the general treatment of stove plants. They are all grown in pots of such sizes as the roots of the plants require. The compost in which they are planted is formed by mixing one moiety of fresh light loam with another moiety consisting of equal parts of moor-

earth and leaf-mould, mixed together with the spade, without sifting; for it is found that the more porous and open the compost is, the better the plants thrive. Great attention is necessary to the drainage of the pots, so that when water is given the excess should percolate freely through, and not continue stagnant among the roots.

The plants are shifted from small to larger pots as they advance in growth, at least once a year; some kinds which grow more freely than others should be shifted oftener. Their need of a removal may be determined by turning the plant out of the pot, and if the fibres of the roots are very much matted together, it is a pretty certain indication that more room would be advantageous. If very much matted, the ball should be gently patted with the fingers so as to separate the slender rootlets from each other before placing them in the larger pot, which should be only one size larger, just allowing a small addition of fresh compost to surround the ball, with a little over the surface, the whole should then be pressed down pretty firmly, and immediately watered.

Whether the plants are plunged in the pit, or only placed on the surface of it, they are kept so far apart from each other as to allow air and light to circulate freely among them, otherwise they are liable to lose their leaves and become unsightly. Water is judiciously supplied according to the apparent need of each plant. Mischievous effects are sure to be caused by indiscriminate and excessive watering, therefore care must be taken that none be watered too much or too frequently; at the same time, no plant must be

deprived of water so as to become too dry; for many stove plants are lost for want of water. As these plants have not the benefit of showers of rain, sprinkling them from above is found beneficial. They are thus freed from dust and insects, and fresh vigour is imparted, especially when this is done in the evening, in very warm weather. Humid heat is always productive of good to forced plants, and this should be supplied to them at all times except in severe frosts.

The *Siphocampylos*, so called from the *curved* form of its *tubular* corolla, is furnished with lanceolate leaves, pointed at the extremity, the margin unequally serrated, and at the base somewhat attenuated. The solitary flowers are furnished with a footstalk, and are placed in the axils of the branches. It is in the Linnæan class *Pentandria*, and order *Monogynia*, and in the natural order *Lobeliaceæ*.

ISMENE.

THE Ismene, so named by Salisbury, is a beautiful white flower and a great ornament of the bark stove, of which it is a perennial denizen, in the merry month of June. The corona, that is, the crown-like cup which is found at the orifice of the tube of its corolla, is staminiferous, the tube is slender and cylindrical, and curved. The filaments are short, and the perianth is divided into six segments, serrated irregularly at the extremities. The perianth has in parts a yellowish tinge marked with green. The plant is usually about two feet high when fully grown. It has a bulbous root, and is propagated by offsets, and thrives well in sandy peat. It was imported into England in 1837 from Lima.

The city of Lima is the capital of Peru, and has been considered the most magnificent of all the cities in Spanish America excepting Mexico. Its position is most beautiful, being placed in the valley of an amphitheatre, formed by the peculiar structure of the Andes at that part of the chain where its spurs extend themselves towards the coast. The city is built upon the river Rimac, and lies in latitude about 12° , and longitude $77^{\circ} 18'$. The lofty spires and domes, which are numerous, give quite an oriental appear-

ance to the city. The streets run from east to south-east, so that the walls cast a shade both in the morning and in the evening. Frequent shocks of earthquake are experienced at Lima and its vicinity, which have led to the adoption of a kind of architecture which almost universally limits the houses to one story, or if there be a second, its walls are usually constructed of wattled reeds, or cane, which are plastered with clay, and painted or whitewashed. The churches and public buildings are built on the same principle. The roofs are flat and of extremely light materials, but sufficiently protect the inhabitants from the rains, which rarely descend with much violence, while the effects of earthquake are rendered less dangerous by the fall of such light materials, and are more easily remedied.

Earthquakes are unknown to us, and we therefore regard them with great apprehension. We associate with the name an undefined sense of danger. Let our thoughts turn in any direction, death and destruction seem to be the necessary accompaniments of these convulsions of nature; yet though we are deeply moved by such emotions, familiarity with them is said to reduce the dread. Indeed, the "inhabitants of countries where long series of weak shocks succeed each other lose almost every trace of fear. On the coasts of Peru, where rain scarcely ever falls, and where hail, lightning, and thunder are never known, these atmospheric explosions are replaced by the subterranean thunder which accompanies the trembling of the earth. From long habit, and a prevalent opinion that dangerous shocks are only to be apprehended two or three times in a

century, slight oscillations of the ground scarcely excite so much attention in Lima as a hail-storm does in the temperate zone."

The population is supposed to be about fifty-five thousand, for whose accommodation not less than fifty-seven churches exist, besides twenty-five chapels, belonging to colleges, hospitals, and other public establishments. There are also many convents and nunneries. There is a fine cathedral, in which Pizarro, by whom it is said to have been founded, is buried. It has been most lavishly adorned, and the riches which have been spent upon the interior could hardly be believed of any city except of this, which once paved the streets with ingots of silver in honour of a recent victory. The balustrades surrounding the high altar, and the organ-pipes, were of silver. How great was the abundance of silver ornaments in the churches may be judged of from the fact that a ton and a half was taken from the various churches of Lima, in 1821, without being missed, to meet the exigencies of the State.

The ladies of Lima are as remarkable for their beauty and the fineness of their figure, as for the want of freshness of complexion. Their walking dress is very peculiar; it consists of two parts, the *saya* and the *manto*. The *saya* is a petticoat, made to fit so tightly that, being at the same time quite elastic, the shape of the limbs is rendered distinctly visible. The *manto*, or cloak, is also a petticoat, which is drawn over the head, breast, and face, and is kept so close by the hands, which also it hides, that no part of the body, except an eye, and sometimes only a small portion of

one eye, is seen. A rich coloured handkerchief, or a silk baud and tassel, are frequently tied round the waist, and hang nearly to the ground in front.

Ismene is the name of a daughter of (Edipus and Jocasta; she was therefore the sister of Antigone. The plant Ismene figured in our group bears the specific name *Macleana*, having been so distinguished by that assiduous botanist the Very Reverend the Honourable W. Herbert, LL.D. It belongs to the Linnæan class *Hexandria*, and order *Monogynia*, and to the natural order *Amaryllideæ*.

PITCAIRNIA.

THE continent of America has contributed largely to the number of our exotic plants, and many of these have been imported from Brazil, which constitutes the largest part of South America. Commencing at the equator, at about 70° west longitude, the boundary runs north-eastward to 4° north latitude, then it runs irregularly south-westward to 51° on the equator, where it is bounded by the Atlantic Ocean, which laves its coast for between four and five thousand miles. The extreme eastern point of the coast is at Paraiba, which lies in west longitude 36° , and south latitude 70° , from which point its direction is S.S.W., to 33° south latitude, from whence it returns in an irregular line, N.N.W., to 70° west longitude, being bounded respectively by Paraguay, Bolivia, Peru, and Colombia. The whole area is supposed to be nearly three million square miles, and the surface being of varied elevation, there is consequently great difference of climate. The mountains which run along the eastern coast, at a distance more or less remote from it, have a mean elevation of about 3,200 feet. The northern part of the chain has received the singular name of Serra dos Orgãos, or Organ Mountain, because its peaks resemble the tubes of an organ. The

different chains are more or less visibly connected, the highest of the interior being situated to the north of Villa Rica. Its culminating point, and of the entire country of Brazil, is Mount Itambe, which is 5,960 feet in elevation; Serra de Piedade, 5,830 feet; Itacoluni, 5,750 feet; and the Peak of Itabira, 5,180.

Immediately within the coast-range the Sertão or table-land begins, and runs from east to west through the whole country. Its mean elevation is about 2,600 feet. From this elevation it gradually sinks towards Rio Paraguay and Rio Madeira, in the west, and there ends in low marshy plains. The principal part of the table-land is clothed with thick forests, and vegetation is so rank, that in many parts the country can be penetrated by no other means than by sailing up rivers. This difficulty of access has prevented our becoming so well acquainted with the extensive plains of the Amazon, the Madeira, etc., as with other parts of America. It is very probable, however, that enriched by the spoils of the forest through the lapse of ages, they consist of the richest mould, as stated by Baron Humboldt. The heat in the deep recesses of the dense forests is intense, and the damp is so excessive, that occasionally the whole country is enshrouded in a deep blue mist.

Brazil is celebrated for its diamonds; these are obtained by washing the earth from the mines. As soon as the rainy season begins, the negroes commence washing the earth procured from the mines during the dry season. Sheds are erected, to screen the washers from the sun, at the bottom of which flows a small stream. Here, under the inspection of an officer, the

operation is carried on, and according to the value of the stones discovered the negroes are rewarded. Should a diamond of seventeen carats weight be found, the fortunate finder receives his liberty; liberty, with some restriction, is also bestowed for a diamond of less value.

The most important vegetable production of Brazil is the manioc (*Jatropha manihot*). Meyen says, "it is not possible sufficiently to praise the beautiful manioc plant." It compensates the Indians for the lack of rice and other cereals common to the old world. An acre of it is said to yield as much nourishment as six acres of wheat. The root is naturally a deadly poison, and its juice was used by the natives to empoison their arrows. They are indebted to a prophet of their own, Suné, for the art of expelling the poisonous quality from the root, which then becomes a valuable farinaceous food. A preparation from this root is a common article for domestic purposes in England, under the name of tapioca. The annual importation of it from Brazil amounts to nearly 16 cwt.

The Pitcairnia, figured in our group, was brought from Brazil in the year 1824. This species bears a white flower, whence it is called *albiflos*, in the month of September. It is an ornamental denizen of the bark-stove; evergreen, herbaceous, and perennial, and grows to the height of three feet. It is propagated by suckers, and thrives well in loamy peat. The leaves are elegant from their linear lanceolate form; they are perfectly entire, smooth, and sharply pointed; their breadth is five-eighths of an inch. It has a

simple stem. The segments of the white corolla are elegantly recurved or rolled outwards. It belongs to the Linnæan class *Hexandria*, and order *Monogynia*, and to the natural order *Bromeliaceæ*.

THE CRESTED GENTIAN.

Gentiana, *L.* *La Gentiane*, *Fr.* *Der Enzian*, *Ger.* *Gentiaan*, *Dut.*
La Genziana, *It.* *La Jenciana*, *Sp.* *Goretschafka*, *Russ.*

THIS beautiful flower is highly ornamental in the summer months of June and July. The plant is herbaceous. It is perennial, and of a deciduous habit, and very dwarf, rarely growing higher than nine inches. It is a native of Persia, whence it was imported in 1804. It thrives well in peaty loam, and is propagated by division of the root. Its name is from *Gentius*, king of Illyria, by whom the tonic virtues of the plants of this genus were discovered; so, at least, Pliny says. The whole genus consists of several species of very handsome herbaceous plants, most of which grow well in a light, rich soil; some of them require peat, and others need to be grown in pots, so that they may be protected in frames in the winter. Some of the species are capable of being increased by division of the root, but the generality of them bring their seed to perfection. When propagated by means of seeds, these must be sown as soon as ripe, when they will quickly germinate; this is of the greater importance, as if not sown until the succeeding spring they will not make their appearance before the commencement of the subsequent year. This circumstance we have noticed in some indigenous, or sup-

posed indigenous plants, as in the Columbine. We gathered in the autumn of 1850 a number of seeds of a very pretty variety, and sowed them in the spring of 1851; they did not come up until late in the spring of the present year, and as yet have not shown any disposition to flower.

The Yellow Gentian (*G. lutea*) is furnished with a thick, yellow root, rather inclining to brown, having a very bitter taste. It occupies large tracts of land in Germany and Switzerland, where it grows safe from the attacks of cattle, on account of its intense bitterness. It was at one time used for the purpose to which we now apply hops, in brewing; and at the present period is the chief European-grown bitter made use of in medicine.

There is a species (*G. Pneumonanthe*), Marsh Gentian, indigenous to our fields, and not uncommon in damp heaths and moist places in some parts of England, which is used in Russia for the same medicinal purpose as that to which we apply *G. lutea*. Its tonic properties are very similar, its infusion constituting one of our most elegant bitters, and being of great service where the system is much weakened.

Another species (*G. ciliata*), Fringed Gentian, a native of Germany, is much admired. It flowers in August and September, a circumstance which Mr. Bryant, an American poet, has noticed in his address to this species.

“Thou blossom bright with autumn dew,
And coloured with the heaven's own blue,
That openest when the quiet light
Succeeds the keen and frosty night,

Thou comest not when violets lean
O'er wandering brooks and springs unseen,
Or columbines, in purple dress'd,
Nod o'er the ground-bird's hidden nest.

Thou waitest late and comest alone,
When woods are bare and birds are flown,
And frosts and shortening days portend
The aged year is near his end.

Then doth thy sweet and quiet eye
Look through its fringes to the sky ;
Blue, blue, as if that sky let fall
A flower from its cerulean wall.

I would that thus, when I shall see
The hour of death draw near to me,
Hope, blossoming within my heart,
May look to heaven as I depart."

Persia, the native country of *G. septemfida*, or the Crested Gentian, is a well-known country of Asia. It lies between 40° and 26° north latitude, and 44° and 72° east longitude. Its surface is much diversified, consisting of barren deserts and rocky chains of mountains, large plains and clustering hills, with two tracts of low-land. The general aspect of the country is sterile, and, except in some few favoured spots, there are none of the verdant fields and glassy slopes which render our own land so beautiful. The eye meets with no enclosed parks on which it so loves to dwell ; the varying hedgerows which intersect our fertile plains, and the overhanging woods which impart so much of beauty to English scenery, are nowhere to be seen there. There are no such seats as those to which our aristocracy retire from the cares of state or the pleasures of a town life, nor cottages of cheerful appearance, over whose whitened walls the honeysuckle and the rose, the jasmine and the clematis, throw

their fragrant flower-bearing branches in rich adornment, and "except in spring, even the portions cultivated round the villages can hardly be distinguished from the brown, arid expanse, that everywhere meets and fatigues the eye of the traveller."

The climate of Persia is very much varied, and consequently we find that numerous kinds of trees and shrubs common to Europe, in some provinces, grow with vigour, while trees which are almost peculiar to Arabia grow in abundance, as the tamarisk and others. Wheat is said to be indigenous to Persia; and Strabo affirms that it grows spontaneously on the banks of the Indus, a statement rendered highly probable by the circumstance of the genus *Triticum* being generally spread over the whole continent of Asia.

The Crested Gentian (*G. septemfida*) is in the Linnean class *Pentandria*, and order *Digynia*, and gives its own name to the natural order *Gentianeæ*.

CANDOLLEA.

THE generic name of this plant was assigned to it by Labillardière, a French botanist, in honour of Augustus Pyramus de Candolle, the author of several botanical works. This is the only species, and from its smooth leaves being obovately cuncated, it has received the specific name *cuneiformis*. The leaves are entire and blunt at the top, and the cinereous branches are rough.

The Candollea is an evergreen shrub, of an ornamental character, and as yet confined to the greenhouse, where it attains the height of seven feet. It is increased by cuttings in sandy peat; and if the cuttings be of ripened wood, but not so old as to be nearly sapless, or that the sap is almost in a state of rest, they will root freely in sand under a glass. They will grow also for a time when planted in peat alone, but they will not eventually be so fine and healthy, nor flower so freely as when set in a mixture of sand and peat. The flowers are a pretty yellow. The plant is a native of New Holland, and was first introduced in England in 1824.

New Holland is, strictly speaking, the north-western portion of Australia. The name was given to it by the Dutch on their discovery of the coast on that side

of the island, and naturally became applied to the whole, though now it commonly is called Australia.

The remarkable inferiority of the aborigines of Australia to Europeans induces us to present the reader with the following graphic description of them from Dampier. "The inhabitants of this country are the miserablest people in the world; they have no houses or skin garments, no sheep, poultry, fruits of the earth, etc.; and setting aside their human shape, they differ but little from brutes. They are tall, straight-bodied, and thin, with small, long limbs; they have great heads, round foreheads, and great brows; the eyelids are always half closed, to keep the flies out of their eyes. They have great bottle-noses, pretty full lips, and wide mouths. The two fore-teeth of their upper jaw are wanting in all of them, men and women, old and young, whether they draw them out, I know not; neither have they any beards. They are long visaged, and of a very displeasing aspect, having no one geaceful feature in their faces. Their hair is black, short, and curled like that of the negroes, and not long and lank, like that of the common Indians. The colour of their skins, both of their faces and the rest of their body, is coal black, like that of the negroes of Guinea. They have no sort of clothes, but a piece of the rind of a tree tied like a girdle about their waists, and a handful of long grass, or three or four small green boughs full of leaves, thrust under their girdle. They have no houses, but lie in the open air without any covering, the earth being their bed, and the heaven their canopy."

The Flora of Australia is very rich in plants pre-

viously unknown to botanists. Brown devoted much labour to an investigation of it, when at that time it appeared that the known species of Australia amounted to four thousand two hundred, so that those peculiar to that country were about one-eighth of all that were then known. Strange to say, few of these are useful to man. Plants similar to many which are not only apparently useless to us, but which are commonly regarded as pests, there attain the shape and magnitude and habits of trees. There are found flowering plants of very great beauty; the lily, the tulip, and the honeysuckle are seen as standards of considerable size. Numerous fragrant plants diffuse their odours and fill the atmosphere for a great space around them; and the sandy soils are bound down and restrained by the growth of prickly shrubs, which prevents the drifts which are so baneful in the deserts of Africa and Arabia.

The Wedge-shaped Candollea (*C. cuneiformis*) belongs to the Linnæan class *Polyadelphia*, and order *Polyandria*, and to the natural order *Dilleniaceæ*.

The events of the last few months are calculated to promote the speedy colonization of this vast country. In the autumn of 1851, gold was discovered at Ballarat, and soon after a far richer field at Mount Alexander, and it seems that the precious metal is not found only in one or two confined localities, but profusely scattered over large tracts of country widely separated from one another. So far back as January last, it was calculated that gold, equal in value to at least three quarters of a million sterling, had been obtained. The effect of this discovery upon the infant

colony was at the first calamitous in the extreme ; for all, whatever were their previous engagements, who were capable of the exertion, quitted their occupations in order to enrich themselves with this valuable product. Neighbouring colonies sent forth their hundreds and their thousands to share in the lucrative employment. Common business was completely paralysed ; labourers, artizans, domestic servants, clerks in government and private offices, were suddenly changed into gold-diggers ; and the natural consequence was the increased and rapidly increasing cost of all the necessaries of life, which had the effect of causing much distress to, and impoverishing families whose income was limited.

Already do we learn that nearly one thousand immigrants from neighbouring colonies are being weekly poured into the gold fields of Victoria ; and at the present time our own people are leaving our shores at the rate of five thousand weekly, urged to quit their native homes by the thirst for gold, which they look forward to satiate in Australia.

That the larger portion of these immigrants and emigrants will be disappointed in their main object, no one can for a moment doubt ; but we are not the less sure that the greater number will advance their temporal interests by expatriation ; many will be unequal to the labour required, but they will be able to replace those labourers, servants, and clerks who have deserted their posts, and thus, while they find employment and maintenance for themselves and families, will relieve the previously-settled colonists from the dilemma in which they were placed.

The ties which bind men to their native land are mighty. Of the thousands and tens of thousands who have sought their fortunes in a foreign clime, there were few who did not look forward, when they set out, to returning home to die and be buried with their fathers. Famine has doubtless made many reckless as to such ultimate end, and driven them to cultivate untrodden fields, and thus by force to fulfil the high command to replenish the earth; but the prospect of speedy wealth is an allurements which seems likely to people the new continent in a comparatively short period of time, and to hasten the development of its hidden resources.

The sudden increase of population induced by this discovery has led Christian philanthropists to seek the means of providing for its religious wants. "Happily," say the writers of this appeal, "under the good providence of God, the emergency has not arisen without some provision being first made for meeting it. The boundless treasure, though lying on the surface of the Australian pastures, and trodden by the unconscious foot of shepherd and flock, has been practically hidden and reserved until the country in which it is found has acquired something of a settled character; until a separate government has been established; until religious institutions have been framed; until a Christian bishop, of eminent and acknowledged piety and of untiring energy, has been appointed; until his personal influence and operations have had time to produce a marked effect upon society; and finally, until the Church over which he presides has been furnished with a more complete organization

than is to be found perhaps in any other land, so framed as to admit of ready and immediate expansion, to meet the enormously extended basis on which the operations of the diocese of Melbourne must now rest. Amongst the many remarkable circumstances connected with the recent gold discovery, one which cannot fail to strike the attention of those who are careful to mark the finger of God in the events of the world's history, and which must call forth a feeling of admiration at the wisdom and thankfulness for the goodness of Him who ordereth all things after the counsel of His own will, is the nice adjustment of the time of this discovery to the social and religious development of the colony."

THE LARGE-FLOWERED PIMPERNEL.

Anagallis, *L.* Le Mouron, *Fr.* Das Gauchheil, *Ger.* Het Guichelheil, *Dut.*
Anagallide, *II.* Aanagallide, *Sp.* Murriao, *Port.* Kurjatschja nogà
 trawà, *Russ.*

THE vermilion hue of our native Pimpernel is just at this harvest-time displayed to great advantage. Though it is a weed, it is one we are least disposed to quarrel with, even when it ventures to spread its gay blossoms in the dressed parterre, or on the borders of a shrubbery which we desire to see always in perfect trim. If we could but induce this foreign species to brave our clime, so much colder than its native air, to step out of the greenhouse and be content to dwell with our native or acclimatized flowers, we should be delighted to see its rich, scarlet, large-flowered bloom decorating our gardens, and enriching by contrast the blues and yellows which we cultivate so abundantly.

This species of the Pimpernel (*A. fruticosa*) was brought into England in 1803, from Morocco, and is a biennial which germinates and grows and blooms in the greenhouse, greatly to its adornment, in the genial months of May, June, and July. It is herbaceous and deciduous, and is generally propagated by layers in peaty loam. Its usual height is about three

feet. Its leaves are lanceolate, and grow generally in threes, sessile on the stem and branches; the flower-stalks proceed from the axil formed by the junction of the leaves and stem, which is shrubby and rounded at the base. The branches are angular and spreading.

Morocco, which supplied us with this gay flower, lies in the north-west of the continent of Africa. The waters of the Mediterranean wash its northern shore, which runs westward by the Straits of Gibraltar, and its western coast is the barrier of the Atlantic Ocean, as far south as Cape Noon; the river Akassa and the desert of Sahara bound it on the south, and the Atlas range upon the east.

The country is said to be extremely fertile, producing most abundant crops. Hence the cultivation of the soil is in a most primitive condition, and is supposed to have remained unimproved for eight centuries at least. They uproot the weeds, dry and burn them before the rains of autumn set in; they then disturb the soil, to the depth of about six inches, by an instrument which scarcely deserves the name of a plough, dragged along by an ass, heifer, or camel; and that, except the mere scattering of the seeds upon the surface, is all the care they take. Manure is never used to enrich the fields; yet such is the wonderful luxuriance of the earth, that "the plains of Duguella alone," according to Major Beauclerk, "are capable of producing in one year as much corn as the united kingdoms of Great Britain. Immense crops of corn yearly overstock the market of Mogador; a bushel of corn may be procured for a partridge, or a coin worth an English shilling; and such is the profusion of

grain, that in many instances it does not repay the labour of harvesting.

The large-flowered Pimpernel (*A. fruticosa*) is in the Linnæan class *Pentandria*, and order *Monogynia*, and in the natural order *Primulaceæ*.

MONARDA.

THE species of this ornamental genus of exotic flowers are all natives of the American continent. Four of them were imported into England nearly two hundred years ago, namely, in 1656. This was apparently about the time of their discovery, for they received the generic name of *Monarda* in honour of a Spanish physician of Seville, then probably living, of the name of Nicolas Monardez. The greater number of the species are aromatic plants, herbaceous and deciduous. They have a close resemblance to mint in their habits, and require nearly the same mode of culture. They are all perennial, varying in the average height to which they grow, from one to four feet.

The species figured in our group is *M. didyma*. The name by which it is known to the aboriginal inhabitants of North America is the Oswego tea, and is sometimes used by them as we use tea. It is just one hundred years since it was brought into England. It grows about three feet high, and forms a very ornamental shrub in the flower-garden. It begins to bloom in the month of June, and is now (September 20) displaying its remarkably brilliant scarlet flowers in full beauty. It is propagated by division of the root, and thrives well in rich loamy

soil. The leaves are egg-shaped, acuminate, finely serrated, and somewhat smooth. The flowers grow in headed whorls, and because there are two flowers on one stem, one terminal, and the other four or five inches below it, this species is called *didyma*, that is, the twofold or twin *Monarda*. The involucres, that is, the bracteæ which encompass the bloom of umbelliferous flowers in a whorl, are purple. It belongs to the Linnaean class *Dianthia*, and order *Monogynum*, and to the natural order *Labiata*.

The *Monarda* is rather a tender plant. When the genial warmth of spring excites the vital organs of vegetables into action, this plant soon begins to show its influence. Shortly it may be seen growing vigorously some twelve or fifteen inches high, but should the night wind bear along with it the chilly frost, the fair plant, whose leaves and stems were yesterday so fresh, so green, so beautiful, is shrivelled and blackened as though it had been submitted to the action of a flaming fire. Yet soon again fresh stalks rise from the unscathed root, and in due course the showy and singular flowers add their beauty to the parterre.

The continent of America, or the New World, as it has been commonly called, was found by Christopher Columbus, a native of Genoa, in the year 1492. We may perceive somewhat of the enthusiastic character of the discoverer, in the following description of his first impressions. "The loveliness of this land," he says, "far surpasses that of the Campiña de Cordova. The trees are all bright with ever-verdant foliage, and perpetually loaded with fruits. The plants in the ground are tall and full of blossoms. The breezes are

mild, like those of April in Castile; the nightingales sing more sweetly than I can describe. At night other small birds sing sweetly, and I also hear our grasshoppers and frogs. Once I came into a deeply enclosed harbour, and saw high mountains which no human eye had seen before, from which the lovely waters streamed down. The mountain was covered with firs, pines, and other trees of various form, and adorned with beautiful flowers. Ascending the river which poured itself into the bay, I was astonished at the cool shade, the crystal clear water, and the number of singing birds. It seemed to me as if I could never quit a spot so delightful; as if a thousand tongues would fail to describe it; as if the spell-bound hand would refuse to write."

North America, whence the Monarda was imported, was discovered as early as the year 1000, by Leif, the son of Eric the Red, who, taking a northern route, traced it as far south as $41\frac{1}{2}^{\circ}$ north latitude. The portion with which he became acquainted he called Finland, and it took in the whole coast line from Boston to New York. The whole coast of North America is indented by large gulfs and arms of the sea. One of these, consisting of Davis's Straits and Baffin's Bay, divides Greenland from the remainder of the continent; and on account of its coasts being almost entirely inhabited by tribes of Esquimaux, it has been appropriately called the Sea of the Esquimaux. A little further south, Hudson's Straits admit to the large surface of water which is known as Hudson's Bay. The whole continent is distinguished from those of the Old World by the magnitude and grandeur of its

mountains, its rivers, and its lakes. The lakes of North America alone cover a surface larger in extent than that of Great Britain, and it is calculated that they contain more than half the fresh water on the globe. The three great rivers of North America, the Mackenzie, flowing northward, the St. Lawrence, eastward, and the Mississippi, southward, all descend from a water-shed, whose elevation is considered to be not more than 1500 feet, which divides the great central plain of North America into two great basins, lying between the Rocky and the Alleghany Mountains. In the former chain occur the lofty mountain St. Elias, the elevation of which is about 17,900 feet, and Mount Brown, 15,990 feet; and in the latter, which extends from latitude 35° to 41° north, the north-east is Mount Washington, which is 6620 feet above the level of the sea. The river Mackenzie may be reckoned to be about 5800 miles in length; the St. Lawrence, 2000; and the Mississippi, 4200.

LINDLEY'S CENOThERA.

WE have already noticed one species of this highly ornamental genus, *O. Drummondii*, which is a native of Texas, and a pretty yellow flower. The species under consideration is also a native of the continent of America, but of a very pretty pink. It was collected by Mr. Douglas on the north-west coast of America, being found by him on the woody banks of the interior. It is one of the most beautiful of the numerous species of this beautiful genus. It is an annual, growing eighteen inches high, and flowering from June to November. It is propagated freely by seeds, and thrives well in common garden soil. It was brought into England in the year 1826; and though called CEnothera, seems rather to belong to the genus Gode-tia, a name of uncertain origin, but presumed to be a proper name barbarously latinized.

The condition of the aboriginal races of America is one of painful interest to the Christian philanthropist. Notwithstanding that, from the moment the Europeans landed in the New World, benevolence has been at work to instruct portions of these tribes in religion and the arts, what is the result after centuries of incessant exertion? Flattering statements have been made at different periods of the success of men

who dedicated their lives to the ungrateful toil; but is there one tribe that exhibits the steady industry, the provident habits, the spirit of improvement, and the rational views of religion, which are to be found in any parish in England? There is no proof that there is. Various tribes, having their abode near the whites, have in some measure adopted their habits and ideas, but merely so far as they are influenced by the imitative faculty. So long as missionaries and teachers are among them, things wear a favourable appearance; but there is no self-sustaining power in their civilization. Whatever amount of civilization there seems to be, it is all created by the active influence of men possessing loftier natural endowments, and when that influence is removed the effect ceases, because their character has not been radically changed. Parties of Indians, remains of once-powerful tribes, have lived peaceably on reserves of land, enclosed amidst the population of the United States, for more than a century; no situation can be supposed to be better fitted for the promotion of their improvement; but not in one instance, so far as is known, have they become absorbed into the mass of the white population, or risen to anything near their level in knowledge and the useful arts. They live in huts, in no material degree better than the wigwams of their wandering brethren. They are generally honest, but drunken, indolent, and ignorant, though Government employed teachers and missionaries to instruct them. Basket-making is almost their only trade, and in their habits and character they may be compared with the gipsies of Europe, who dwell in the midst of civilization,

without imbibing its spirit or partaking of its benefits. There is not the same reluctance in the whites to mingle their blood with the red men, as in the blacks. It seems, indeed, that the Indian must be regarded as in truth the man of the woods; and that, like the wild animals he lives upon, he is destined to disappear before the advancing tide of civilization. This appears to come upon him with a blighting force, for it furnishes fresh food to nurture his vices, while it calls for the exercise of intellectual and moral faculties in which he is wanting, and renders useless those qualities which prevail in his character. "We would not," says an able writer, "discourage the attempt to meliorate the lot of the Indians, . . . we do not think," however, "that there is anything in the extinction of these people by natural causes which humanity should mourn over. In every state of life man has but a brief span of existence allotted to him. Successive generations fall like the leaves of the forest; and it should be remembered that the extinction of a race by natural causes means merely its non-removal or the suspension of those circumstances which enabled it to continue its existence."*

Mrs. Sigourney indicates the heartfelt desire for vengeance upon the whites, which seems to hinder the amalgamation of the races, in some beautiful verses on "Our Aborigines."

" I heard the forests as they cried
Unto the valleys green,
' Where is the red-browed hunter race,
Who loved our leafy screen ?

Who humbled 'mid these dewy glades
 The red deer's antlered crown?
 Or soaring at his highest noon,
 Struck the strong eagle down?

Then in the zephyr's voice replied
 Those vales so meekly I lest,
 ' They reared their dwellings on our side,
 Their corn upon our breast;
 A blight came down, a blast swept by,
 The cone-roofed cabins fell,
 And where that exiled people fled,
 It is not ours to tell.'

Niagara, of the mountains grey,
 Demanded from his throne,
 And old Ontario's billowy lake
 Prolonged the thunder tone,
 ' The chieftains at our side who stood
 Upon our christening day,
 Who gave the glorious names we bear,
 Our sponsors, where are they?'

And then the fair Ohio charged
 Her many sisters dear,
 ' Show me once more those stately forms
 Within my mirror clear.'
 But they replied, ' Tall barks of pride
 Do cleave our waters blue,
 And strong keels ride our farthest tide,
 But where 's their light canoe?'

The farmer drove his ploughshare deep,
 ' Whose bones are these?' said he;
 ' I find them where my browsing sheep
 Roam o'er the upland lea.'
 But starting sudden to his path
 A phantom seemed to glide,
 A plume of feathers on his head,
 A quiver at his side.

He pointed to the rifled grave,
 Then raised his hand on high,
 And with a hollow groan invoked
 The vengeance of the sky;
 O'er the broad realm so long his own
 Gazed with despairing ray,
 Then, on the mist that slowly curled,
 Fled mournfully away."

THE ELEGANT MADIA.

IN the year 1794 the first known species of this genus was brought into England; and the second in 1825. Both these species are unattractive, and come under the designation of clammy weeds, being found nowhere but in botanical gardens. The name of the plant in Chili, where the above were brought from, is Madi, latinized by the addition of the vowel *a* by Willdenow. They are both annuals, as is also the species portrayed in our group, which, however, is distinguished from them by its beauty. The plant is hardy and is easily propagated by seeds, and flourishes in common garden ground. It was discovered by the late Mr. David Douglas, in North-west America, in 1831, and was sent by him to the gardens of the Horticultural Society. It blooms early, and continues in flower during most of the summer months. Its ornamental yellow flowers render it a great favourite. On account of its attractive appearance it has received the specific distinction indicated by the adjective *elegans*, and not undeservedly is it called the Elegant Madia. The plant grows to the height of about eighteen inches. It is in the Linnæan class *Syngenesia*, and order *Superflua*, and in the natural order *Compositæ*.

We have in a former page given the opinions of an

eminent writer on the practicability of civilizing the aborigines of America. There seems, however, to be other than mere physical hindrances to the good work. Moral obstacles exist, and have existed from the first moment that the Pilgrim Fathers first set their feet upon the shores of the New World. The very principles which caused them to quit their native land and seek the soil of a strange country created difficulties at the very threshold ; and though the natives were inferior in intellectual capacity to the strangers who sought a dwelling-place among them, they soon detected the existence of divisions unknown to themselves, and which they were not desirous of being acquainted with. Many look back with deep reverence to the Pilgrim Fathers, but England better understands the principles of colonization than she did then, and though we admire the poetry and the feeling of Pierpont's well-known verses, we cannot altogether sympathise with him in his laudation of the subject. Thus he writes :

“The pilgrim fathers—where are they ?
The waves that brought them o'er
Still roll in the bay, and throw their spray
As they break along the shore ;
Still roll in the bay, as they rolled that day,
When the May-Flower moored below,
When the sea around was bleak with storms,
And white the shore with snow.

The mists that wrapped the pilgrims' sleep,
Still brood upon the tide ;
And his rocks yet keep their watch by the deep,
To stay its waves of pride.
But the snow-white sail, that he gave to the gale,
When the heavens looked dark, is gone ;—
As an angel's wing, through an opening cloud,
Is seen and then withdrawn.

The pilgrim exile—sainted name!—
The hill, whose icy brow
Rejoiced, when he came, in the morning's flame,
In the morning's flame beams now.
And the moon's cold light, as it lay that night
On the hill-side and the sea,
Still lies where he laid his houseless head ;—
But the pilgrim—where is he ?

The pilgrim fathers are at rest ;
When summer's throned on high,
And the world's warm breast is in verdure dressed,
Go, stand on the hill where they lie.
The earliest ray of the golden day
On that hallowed spot is cast ;
And the evening sun, as he leaves the world,
Looks kindly on that spot last.

The pilgrim *spirit* has not fled :
It walks in noon's broad light ;
And it watches the bed of the glorious dead,
With the holy stars by night.
It watches the bed of the brave who have bled,
And shall guard this ice-bound shore,
Till the waves of the bay, where the May-Flower lay,
Shall foam and freeze no more."

Thus does Pierpont sing the praises of the Pilgrim Fathers, who left their native land for conscience sake ; but that their separation from the Church was a hindrance to the progress of the Gospel among the Americans there can be no doubt. An offer and request was made by an American missionary, to teach among the Indians the principles of Christianity, when an answer was given thereto by the chief Sa-gu-yu-what-hah, called by the whites Red Jacket, which well illustrates their peculiar sagacity and shrewdness. He says : "An evil day came upon us. Your forefathers crossed the great water, and landed on this island.....They told us they had fled from their own country for fear of wicked men, and had come here to

enjoy their religion. They asked for a small seat. We took pity on them, and granted their request; and they sat down among us. We gave them corn and meat; they gave us poison in return. You have got our country, but are not satisfied; you want to force your religion upon us.

“You say that you are sent to instruct us how to worship the Great Spirit agreeably to His mind, and, if we do not take hold of the religion which you white people teach, we shall be unhappy hereafter. You say that you are right, and we are lost. How do we know this to be true?.....We only know what you tell us about it. How shall we know when to believe, being so often deceived by the white people?

“You say that there is but one way to worship and serve the Great Spirit. *If there is but one religion, why do you white people differ so much about it? Why not all agreed, as you can all read the book?* We do not understand these things.....We never quarrel about religion.”

SISYRINCHIUM.

THIS showy plant (*S. speciosum*) is a native of Chili, from whence it was brought in the year 1836. It is a greenhouse perennial, of an herbaceous character, and evergreen. Its usual height is about twelve inches, and it spreads forth its highly ornamental blue flowers in the merry month of June. It is propagated by division of the root, and it is content with such food as the ordinary garden soil will yield. It is indeed a lovely species. To bring it to perfection, it should be planted in a light dry soil, and set in sunny spots and warm in the greenhouse.

The root is an egg-shaped bulb, from which there rise sheathing leaves, chiefly radical, which are deeply striated. The spathe consists of two unequal sheathing leaves enclosing the flowers arranged upon the spadix, or spike, on which the flowers, generally two in this plant, are protruded from the spathe. The peduncle, or footstalk of the flower, is one inch long and curved. The name of the plant is formed from *sys*, a pig or hog, and *rhynchos*, a snout. It belongs to the Linnean class *Triandria*, and order *Monogynia*, and to the natural order *Irideæ*. The plant was originally discovered about Valparaiso, on sandy hills.

Chili is an independent state of South America, and

is a narrow strip of land lying on the south-west coast of that division of the New World. It extends from about 36° to 41° south latitude. The surface of the country is a broad expansion of the mountainous Andes, which spreads forth its ramifications from the central longitudinal ridge towards the sea, diminishing continually, but irregularly, till they reach the ocean. Some of the valleys present broad expansions of surface, and these are the patches which constitute the finest and boasted portions of the middle portion of Chili.

The climate is stated to be equable and healthy; the country is rich in minerals; and the land, in the south, is fertile; at Concepcion, the foliage is rich and most luxuriant; at Valparaiso, which is more than one hundred miles further north, stunted brushwood but poorly clothes the hills, while the ground looks everywhere starved and naked, from the wretched grass which attempts to grow upon it; at Coquimbo, there is no brushwood, and nought but a wretched sort of prickly pear is seen, and a miserable sprinkling of wiry herbage; at Guasco, no trace of vegetation is seen, the hills and plains presenting only a surface of bare sand, save here and there, where a solitary stream of water flowing from the lofty Andes gives life to the little channel by which it finds its way to the sea. One traveller states, however, that a botanist can have no greater treat than a journey through the Cordilleras, so rich, various, beautiful, and novel are the herbaceous plants and flowers which abound there. The same writer says of Valparaiso, whence our flower was introduced, that, in spite of its matchless and

beautiful climate, there is not in all Chili a spot presenting a more uncomfortable and cheerless place of residence.

THE SPREADING CAMPANULA.

Campanula, *L.* *La Campanule*, *Fr.* *Die Glockenblume*, *Ger.* *Klokjes*,
Dut. *Campanella*, *It.* *Campanula*, *Sp.* *Kolokoltshick*, *Russ.*

“ Ere yet our course was graced with social trees,
 It lacked not old remains of hawthorn bowers,
 Where small birds warbled to their paramours ;
 And, earlier still, was heard the hum of bees ;
 I saw them ply their harmless robberies,
 And caught the fragrance which the sundry flowers,
 Fed by the stream with soft perpetual showers,
 Plenteously yielded to the vagrant breeze.
 There bloomed the strawberry of the wilderness ;
 The trembling eyebright showed her sapphire blue,
 The thyme her purple, like the blush of Even ;
 And if the breath of some to no caress
 Invited, forth they peeped so fair to view,
 All kinds alike seemed favourites of Heaven.”

WORDSWORTH.

SMALL, fair, and bright were the favourites of Flora in the fields and gardens of old England, ere the spirit of enterprise sent her sons into foreign lands. Much loved was the profusely-blooming hawthorn by rustic hearts, and many a thrill of pleasure sprang up within them, when they saw its green foliage and snowy blossom, and heard the cheerful songs of birds singing as they perched upon the thorny spray ; and joyfully did they inhale the sweet air laden with the perfume of the May, whose nectar-filled cells they saw ran-

sacked by the industrious bees, storing up honey for the careful housewife's use. And not only thence did bees carry off the luscious spoil, but from every kind of flower which the opening year, the gentle warm showers, and the renewing heat of the springtide sun led to spread forth its beauty to their gaze. How diligently is the bee extracting the sweet nectar from that strawberry flower, and what a valuable service it performs in return ! Its finely-feathered limbs brush off the pollen from the anthers, and as it roves about from flower to flower, the fructifying mealy powder comes in contact with the viscid fluid at the extremity of the pistils, which, by its adhesive properties, retains the pollen, and relieves the laden insect. Thus has the unconscious bee brought together those substances which, by combination, under the hidden working of Nature, produce the rich and grateful fruit. Wordsworth calls their robberies harmless ; rather would we look upon the nectareous drops which they bear away as only a fair fee for the essential services performed ; services of universal benefit, for to their labours are we all indebted for rich fruits and useful seeds, which are to be perpetuated, so long as the earth lasts, by an instrumentality, the apparent feebleness of which but adds glory to the infinite wisdom of the all-wise Creator.

The enterprise of England's sons, of which we spoke above, has provided us with immense numbers of the larger and more gorgeous flowers of other climes. We have some indigenous bell-flowers, but the number of the genus has been augmented largely by the operations of collectors. We have about nine

native species and sixty-five foreign; all of which, with one exception, are ornamental.

The excepted species is a native, known as the Rampion Bell-flower (*C. Rapunculus*), and this perhaps ought not to be excepted, but rather to be considered as being more than ornamental. Its fine blue bell-shaped flowers are very numerous, and grow in a panicle. It is regarded as a culinary plant, the roots having a sweet taste, though somewhat pungent; a quality which cultivation has the effect of diminishing. At one period it was cultivated in England as a garden vegetable, and was then commonly called Ramps; but it is rarely met with now in gardens. In continental countries, more particularly in Italy, where it is said to grow in great abundance in mountainous districts, it is much used. The Italian peasantry go into its known districts, where they collect it, and bring it to market. With this class of people it is an article of considerable consumption in its season. They boil it into a sort of soup, with a little vermicelli, or eat it raw with bread.

The species figured in our group is a native of Hungary, whence it was imported in 1814. The Spreading Campanula (*C. divergens*) is a biennial plant, herbaceous and deciduous, and grows about a foot and a half high. It is propagated by seeds, and thrives well in sandy loam, displaying its rich, blue-purple flowers in June and July. Its stem is simple, diverging, and covered with a hairy down. The leaves are sessile, lanceolate, and bluntly serrated and veiny. It belongs to the Linnæan class *Pentandria*, and order *Monogynia*, and to the natural order *Campanulaceæ*.

A very graceful plant of this genus was introduced into England in 1850. It was discovered in Flores, one of the Azores, and seeds were sent, which successfully germinated, and the plant soon rewarded the care bestowed upon it by displaying its beautiful white flowers. Its specific name is *Vidallii*; it is a half-shrubby plant, producing several branches, all of which grow to about twenty-four inches long, and are terminated by a paniced spike of rich pendent flowers, of a highly ornamental character. Its habit is singularly graceful, and it blooms freely, two characteristics which make it a plant of great value to the lover of flowers. Not only is it a very desirable plant for the flower-garden, but it may be grown with great success in pots, and then is well adapted to add to the charms of the greenhouse in summer. Little care is required to rear the plants from seeds, so that a number may be raised annually. In the severer parts of winter moderate protection is required, as might be supposed, from the character of its native country. It is worthy of a place in every garden, as its flowers form a beautiful contrast with the glowing hues of others.

Hungary lies between about 44° and 49° north latitude, and 14° and 26° east longitude. Its climate has been divided into three kinds: first, that of the Carpathians and highlands of north-west Hungary, which is the coldest; that of the great plain, which is equal in extent to about 36,000 square miles, is the warmest; and that of the highlands south of the Danube is a mean between the two.

The vegetable products of Hungary comprise all the indigenous plants of Europe. Tobacco is very fine.

Dye-woods grow well wherever cultivated. Wheat is grown to a very large extent, and an immense quantity exported. The cold is generally too severe to allow of the growth of the *laurustinus* and similar evergreens, which so agreeably adorn our pleasure-grounds.

Hungary is a country of considerable interest to us, owing to the oppression to which it has been subjected, and the excitement caused amongst us by the late visit of M. Kossuth; we therefore give some account of the inhabitants, their dwellings, and customs. "The cottage of the Hungarian (Magyar) peasant," says Mr. Paget, "is, for the most part, a long one-storied building, presenting to the street only a gable-end, which is generally pierced with two small windows, or rather peep-holes, for they are very rarely more than a foot square, below which is a rustic seat, overshadowed by a tree. The yard is separated from the street, sometimes by a handsome double gateway and stately wall, sometimes by a neat fence formed of reeds, or of the straw of maize, and sometimes by a broken hedge, presenting that dilapidated state of half freedom, half restraint, in which pigs and children so much delight, where they can at once enjoy liberty and set at nought control. Passing through the gateway of one of these cottages, we entered the first door which led into the kitchen, on either side of which was a good-sized dwelling-room. The kitchen, white-washed like the rest of the house, was itself small, and almost entirely occupied by a hearth four feet high, on which was blazing a wood fire, with preparations for the evening meal. The room to the left, with the

two little peep-holes to the street, was evidently the best, for it was that into which they were most anxious to show us. In one corner was a wooden seat, fixed to the wall, and before it an oaken table, so solid that it seemed fixed there too; on the opposite side stood the large earthenware stove; while a third corner was occupied by a curious phenomenon, a low bedstead, heaped up to the ceiling with feather-beds. The use of this piece of furniture completely puzzled us—to sleep on it was impossible; we were.....assured it was an article of luxury, on which the Hungarian peasant prided himself highly. For sleeping, he prefers to lay his hard mattress on the wooden bench, or even on the floor; but, like other people who think themselves wiser, an exhibition of profuse expenditure in articles of luxury—feather-beds are his fancy—flatters his vanity. These beds are generally a part of his wife's dowry. In the favourite corner we commonly observed—for the peasants of Zinkendorf are (Roman) Catholics—a gilded crucifix, or a rudely-coloured *Mater dolorosa*, the *Penates* of the family; while all round hung a goodly array of pots and pans, a modest mirror, perhaps even a painted set of coffee-cups, and sometimes a drinking-cup of no ordinary dimensions.

“The corresponding apartment on the other side of the kitchen was furnished with more ordinary benches and tables, and served for the common eating and sleeping room of the family. Beyond this, but still under the same roof, was a store-room and dairy, and below it a cellar. The store-room well deserved its name; for such quantities of *turo* (a kind of cheese),

lard, fruits, dried herbs, and pickles, laid up for winter use, I never saw; and in some houses the cellar was not less plentifully supplied, and that, too, with very tolerable wine. The cow-house was rarely without one or two tenants; the stable boasted a pair, or sometimes four horses; the pigsties, it is true, were empty, but only because the pigs had not yet returned from the stubble-fields; and to these most of the houses added sheepfolds and poultry pens—presenting altogether perhaps as good a picture of a rich and prosperous peasantry as one could find in any part of the world.” There are, however, plenty of cases of an exactly opposite character to this.

The Wallachians are held in in extreme contempt by the Magyar, who, when living in the same village, will never intermarry with a Wallack.

“That the Wallack is idle and drunken, it would be very difficult to deny. Even in the midst of harvest, you will see him lying in the sun, sleeping all the more comfortably because he knows he ought to be working. His corn is always the last cut, and it is very often left to shale on the ground for want of timely gathering, yet scarcely a winter passes that he is not starving with hunger. If he have a waggon to drive, he is generally found asleep at the bottom of it; if he have a message to carry, ten to one but he gets drunk on the way, and sleeps over the time in which it should be executed. But if it be difficult to deny these faults, it is easy to find a palliation for them. The half-forced labour with which the Hungarian peasants pay their rent, has a natural tendency to produce not only a disposition but a determination to

do as little as possible in any given time.....the injustice with which they have been treated has destroyed all confidence in justice, and every sentiment of security. The weakness of the body induced by bad nourishment, and still more by the fasts of the Greek Church, which are maintained with an austerity of which (Roman) Catholicism has no idea, and which often reduces them to the last degree of debility, and sometimes even causes death, these are efficient causes of their idle habits."

THE SHOWY AMARANTH.

Amarantus, *L.* *L'Amaranthe*, *Fr.* *Der Amaranth*, *Ger.* *Amaranth*, *Dut.*
Amaranto, *It.*, *Swed.*, *Port.* *Krowawick*, *Russ.*

MILTON fancifully speaks of the Amaranth as a flower which grew in the garden of Eden, near the tree of life, ere by disobedience the first parents of the human race lost their first estate, at which time he says it was removed to heaven, where it shades the fount of life:—

“Immortal Amaranth! a flower which once
 In Paradise, fast by the tree of life,
 Began to bloom, but soon for man's offence
 To heaven removed, where first it grew, there grows,
 And flowers aloft shading the tree of life,
 And where the river of bliss, through midst of heaven,
 Rolls o'er Elysian flowers her amber stream;
 With these that never fade, the spirits elect
 Bind their resplendent locks enwreathed with beams.”

As the name indicates, the flowers of the Amaranth, generally speaking, do not wither, but retain their bright colours when dead. Most of the species, of which there are thirty-nine, are unattractive in their appearance, while some of them, as the Showy Amaranth (*A. speciosus*), are very ornamental. The Prince's Feather is perhaps the best-known kind.

That figured in our group is an ornamental annual, propagated by seeds, and growing freely in common garden soil. It is a native of Nepaul, whence it was brought into England in 1819. Its clusters of red flowers display themselves in dense spikes in the months of July and August. The plant grows to a considerable height. The spikes are decompound, erect, coloured. The leaves are oblong-elliptic, red beneath. The Amaranth is generally very prolific in seeds, which retain their germinating powers many years.

Nepaul is an independent kingdom of Hindostan, lying between 80° and 89° east longitude, and between 28° and 31° north latitude. Its length from east to west is about five hundred miles, and its average breadth is about one hundred. The country has been divided into four regions, according to the elevation of the surface. The lowest portion consists of part of the great plain of Hindostan, into which it generally extends about twenty miles. The soil of this part is of varying quality, some good and rich, other bad and poor; and the whole surface is intersected by streams, which serve for irrigation, and during the rainy season are sufficiently navigable to allow of agricultural produce being conveyed to the markets in the British territories.

Beyond this region northward is a series of little hills, the upper parts of which are clad with many kinds of trees; here also grow pines and mimosas. In this region are found some villages, whose inhabitants, having first cleared the ground of trees, occupy themselves in the growth of rice and cotton.

North of this lies the mountainous region, some of the peaks of which rise from three to six thousand feet above the great plain of Hindostan, and are clad with snow the greater part of the year.

The fourth, or alpine region, is perhaps of nearly the same extent. It consists of huge rocks, which display sharp peaks and fearful precipices, which, if not perpendicular, are clothed with perpetual snow, and nearly always enveloped with clouds.

The land in the mountainous region is said to be of the greatest value of any in the kingdom. Rice, maize, cotton, several sorts of pulse, mustard, madder, barley, wheat, sugar-cane, and cardamoms are produced in abundance. Ginger, too, is a valuable article in cultivation, and in some parts, in the gardens of wealthy persons, small quantities of most European vegetables are grown.

The Amaranth (*A speciosus*) is in the Linnæan class *Monœcia*, and order *Pentandria*, and in the natural order *Amarantaceæ*.

GILLIES'S PORTULACA.

Portulaca, *L.* Le Pourpier, *Fr.* Der Portulak, *Ger.* Porselein, *Dut.*
Porcellana, *It.* Verdolaga, *Sp.* Beldroega, *Port.* Cholsa, *Pers.*
 Schruka, *Russ.*

THE origin of the name of this plant is unknown, though believed to be of ancient origin. All the species are exotic, of a succulent nature, and of easy culture. Two of the species (*P. sativa*), garden purslane and (*P. oleracea*) small purslane, were at one time much cultivated as pot-herbs, for salads and for garnishing and pickling, but are now very little used for any of these purposes. These, as may be supposed, have no claim to our notice as flowers.

Gillies's *Portulaca*, however, is a different plant. It is an evergreen under-shrub, very small indeed, since the average height of the plants is about six inches only; it is a greenhouse perennial, and of an ornamental character, displaying its flowers, of a reddish-purple colour, in the months of June and July. It is propagated by cuttings, and grows well in sandy loam. It was imported in 1827. The stem is somewhat erect, throwing out its branches at the base; the leaves are oblong-cylindrical, rather compressed, blunt, and dotted. The flowers grow at the extremity of the branches, and are commonly

solitary. The plant belongs to the Linnæan class *Dodecandria*, and order *Monogynia*, and to the natural order *Portulacææ*.

We have elsewhere spoken of the general management of greenhouse plants, and as there are many beautiful, and on this account valuable, hothouse and greenhouse exotics which are not easily propagated, unless the necessary means are employed, we shall detail the particulars here. The proper parts should be selected; they should be prepared rightly for planting, be placed in a suitable soil, defended from undesirable atmospheric action by bell-glasses, and afforded that special degree of bottom heat which is required to excite the cuttings into growth.

The following general rules will very well serve for most of the choicest species of stove and greenhouse plants. The points of the side branches are best for the purpose of rearing young plants. They grow more bushy, and come into flower sooner. If the plant to be propagated be of very attenuated growth, the cuttings need not be more than an inch, or an inch and a half in length. The lower part of such shoots is usually of a brownish colour, the point being still green; and in taking off, a small portion of the brown is taken or retained to form the base of the cutting.

It may be well to explain the terms *ripened* and *unripened* wood, which are frequently used by propagators. The first is known by its woody firmness and brown colour, the last by its greenness and pliant softness. Some plants strike root most readily from the ripened wood, others from the unripened wood,

and when it is so said, the terms are at once understood.

Propagating by cuttings is usually practised in the spring months; and as soon in that season as the young shoots are long enough for the purpose. This season is not only favourable as the awakening time of vegetable life, but allows cuttings rooted at this time the benefit of the genial season of summer.

The pots used are thirty-twos; besides are required potsherds for drainage, a compost of light maiden loam and turfy heath-mould or peat, well mixed but not sifted, and some pure, white, fine sand. A good drainage of potsherds, gravel, or cinders is first put in, then small lumps of turf; then the pot is filled with finer compost to within one inch and a half of the rim, and above these an inch of sand, to form the surface. If loose and dry, a little watering will render them compact.

Bell or striking-glasses are made for the use of the propagator, and should always fit *within* the rim of the pot.

These preparations made, the cuttings are then collected and got ready. They should be all, as near as can be, of the same size and age, and put together in the same pot, so as to receive the same treatment. In preparing the cuttings, whatever may be their length, *one-third* at least of the lower end is stripped of its leaves, allowing those at the top to remain entire. The bottom should be cut transversely, close below a joint or bud, and without fracture of the bark. Thus prepared, the cuttings are carefully dibbed into the sand, and not too thickly together; after which

they receive a watering, to consolidate the sand about them. So soon as the moisture is evaporated from the cuttings and surface of the pot, the glass is put on, and pressed closely down to exclude the air.

The process of the formation of fibrous roots from the base of a cutting is curious, and may be easily seen by using a glass tumbler instead of a common pot. When the cutting, placed close to the side, has been put in for a few days or for a week, the first sign of life is the protrusion or oozing out of the member lying between the bark and the fibrous or woody part of the stem. This swelling projection sooner or later is resolved into slender fibres, which spread themselves in the soil to absorb food, and at the same time a growing movement is seen above—a sure indication that the cutting can henceforth provide for itself.

The use of the glass in striking cuttings is to afford subdued light, and yet defend the rootless shoot from the changes of the open air. If the latter be too dry or too moist, the cuttings would be either rotted or withered; and if the former were too intense, they would be parched, without the glass. To prevent sun-burning, a shade of brown paper should be used in bright weather.

THE SCARLET MONKEY-FLOWER.

Mimulus, *L.* Mimule, *Fr.* Der Gaukler, *Ger.* Potzer, *Dut.* Mimulo,
It., Sp., Port.

THE Monkey-Flower, or Mimulus, received its name from the resemblance which the fruit of the seeds bears to the face of a grinning monkey. All the species are very showy plants, and are of the easiest cultivation in nearly any soil or situation.

The Scarlet Monkey-flower (*M. cardinalis*) is a splendid annual, growing two feet high, and spreading its showy scarlet flowers in the eye of day in the months of July, August, and September. It is propagated by seeds in common garden soil. It was brought from North-west America in 1835. The whole plant is shaggy, with long, loose hair; the leaves, which are egg-shaped, and have their margins toothed as though bitten, clasp the stem. The footstalks of the flowers are as long as the leaves; the calyx is large, inflated, tubular, plaited with ovate, acute teeth. It is in the Linnæan class *Didynamia*, and order *Angiospermia*, and in the natural order *Scrophularinæ*.

The north-western coast of America was not discovered so early as the other parts of the continent. It was supposed, indeed, that it was not actually separated from Asia, but the eastern extremity of Asia was discovered in 1728, by Behring, who gave his name to the straits which divide the continents from each other. He observed the land extending to the north-west, but did not find any part of America. It seems to have been reserved for a Cossack, from Kamschatka, to notice this coast, along which he sailed for a short time. Behring, who had discovered the straits, accompanied by Tchirikoff, was sent, in the year 1741, with instructions to survey the coast carefully. The two companions were by some means separated. Behring effected a landing at about latitude 58° . He tried to extend his survey as far as 65° , but without success, and was compelled to winter on one of the Aleutian Islands, and at last lost his life through the severity of the weather. Tchirikoff saw the land, but losing two boats while seeking to hold intercourse with the natives, he made his way home again. On the strength of Tchirikoff having seen the land somewhere about 55° , the Russians claim and hold possession of the continent north of that latitude.

HORSFALL'S IPOMŒA.

Ipomœa, L. Le Quamoclit, *Fr.* Die Trichterwinde, *Ger.* Trechterwinde,
Dut. *Ipomœa*, *It.*, *Sp.*, and *Port.*

THE *Ipomœas* are a beautiful genus of plants, chiefly twining, and requiring generally a stove in our climate. They are of the easiest culture, and flower with great freedom. The name has been given to them on account of their resemblance to our common bindweed. The Greek word ἵππος is supposed to be the name of a bindweed, and compounding this with ομοῖς, like or similar, we have the word *Ipomœa*, a latinized form of a Greek compound.

The first species appears to have been introduced into England in 1597, from America; and we have now a large number of species from the East and West Indies, North and South America, China, Ceylon, and elsewhere, nearly all of which are of a highly ornamental character. The tuberous-rooted (*I. tuberosa*) *Ipomœa* is remarked as a plant of singular beauty and great fragrance. In the island of Jamaica it is evergreen, and as its palmate leaves are thickly crowded together, and the whole is profusely clad with large, pale, yellow flowers, it is at once a

beautiful object, and an agreeable shade. Its growth is such, that it is said it can be carried over an arbour of three hundred feet in length. The whole of the plant is filled with a milky fluid, of a purgative quality. One author says that scammony might be made from the roots, and another alleges that they may be eaten with safety.

The species (*I. Horsfallia*) figured in our group deserves the name of splendid. It is a perennial twiner, growing to the length of about twenty feet. It is of a deciduous habit, but displays its rose-coloured flowers in the dark days of December and January. It was imported from Africa in the year 1833. It is increased by cuttings, and thrives well in loam and peat. The leaves of this species are five-fingered, the leaflets appearing like the hand spread out, each being lanceolate in form, entire throughout, but with the margins undulating. The peduncles, or common footstalks of the flower, are as long as the petioles, or footstalks of the leaves. The inflorescence, or the arrangement of the flowers, resembles a flattened panicle, whence it is said to be cymose. The segments of the calyx are imbricated, or laid over one another like tiles, blunt and equal. The corolla is funnel-shaped. It belongs to the Linnæan class *Pentandria*, and order *Monogynia*, and to the natural order *Convolvulacea*.

Africa, from whence this species of *Ipomœa* was brought, is a peninsula of immense extent, constituting one of the five great divisions of the globe. It lies south of Europe, from which it is divided by the Mediterranean Sea and Gibraltar Strait. At the Strait

of Gibraltar, Europe and Africa are within ten miles of each other. This continent lies to the south and south-west of Asia, being separated from it by the Red Sea, and it is worthy of remark, that at the southern extremity of Asia, at the Strait of Bab-el-mandeb, the two continents are not more than sixteen miles apart. At the northern limit of the Red Sea, Asia and Africa are joined by the neck of land known as the Isthmus of Suez.

Africa is known best to the mass of English people as the country which gives birth to the slave, and hence a notion has prevailed that the Negro race has almost exclusive possession of the continent. Such, however, is not the case; but the number of races is greater than those in Europe, and the distinctions produced by colour, form, and stature are much wider. There are, indeed, seven very distinct races, namely, the Abyssinian, the Egyptian, the Hottentot, the Kaffir, the Negro, the Nubian, and the Numidian. We shall not describe these races generally, but point out the chief features of the Negro race. The skin and eyes are black; the hair the same colour, and woolly; the skull is compressed laterally, and elongated towards the front; the forehead is slanting, low, and narrow; the cheek-bones are remarkably prominent; the jaws are narrow and projecting; the upper front teeth oblique; the chin receding; the eyes prominent; the nose broad, thick, flat, and confused with the extended jaw; the lips, the upper one particularly, thick; palms of the hand and soles of the feet flat; tibia and fibula convex; pelvis narrow; knees turned

in, toes turned out. The height and the physical powers of this race are said to be equal to those of the European. Although they cultivate many grains, fruits, and roots of great use, and have made the services of the ox, horse, camel, ass, goat, sheep, and hog their own, none have ever been able to tame the elephant, none possess any literature, nor have they had sufficient capacity to form an alphabet even of the rudest character.

Dr. Prichard, whose researches into the history of man have furnished us with so much valuable information, and so many important facts for our consideration, thus writes with respect to the Negro race:—"The tribes in whose prevalent conformation the Negro type is discernible in an exaggerated degree are uniformly in the lowest stage of human society; they are either ferocious savages, or stupid, sensual, and indolent. Such are the Papals, Bulloms, and other rude hordes on the coast of Western Guinea, and many tribes near the Slave Coast and in the Bight of Benin; countries where the slave-trade has been carried on to the greatest extent, and has exercised its usually baneful influence. On the other hand, wherever we hear of a Negro state, the inhabitants of which have attained any considerable degree of improvement in their social condition, we constantly find that their physical characters deviate considerably from the strongly-marked or exaggerated type of the Negro. The Ashantee, the Sulema, the Dahomans are exemplifications of this remark. The Negroes of Guber and Hausa, where a considerable degree of

civilization has long existed, are perhaps the finest race of genuine Negroes in the whole of the continent, unless the Jolops are to be excepted. The Jolops have been a comparatively civilized people from the era of their first discovery by the Portuguese.

THE NEMOPHILA.

THIS favourite annual belongs to a pretty genus of North American annuals, which have received their name with reference to their affection for woody glades and shady groves. There are now about six species, and that one (*N. insignis*) which we have portrayed is not to be admired the least of the number. Its specific name is intended to mark its showy character, and if grown under favourable circumstances it deserves the appellation. Its colour is pale blue, and it blooms from June to October, growing very luxuriantly in rich mould. The leaves are three and four-lobed on each side, either entire or not. The footstalk has no appendages, and the corolla is twice as long as the calyx. This was brought from California in 1833.

These annuals are propagated by seed; they may be sown early in the spring, but the finest flowers are obtained by sowing in the autumn. They may be sown where they are intended to remain, either in patches or as edgings to flower-beds or shrubberies for this last purpose the showy *Nemophila* is an exceedingly desirable flower. When first we saw an edging thus formed, we were surprised at the magnitude of each flower, and the great beauty of the whole. When it is not convenient to sow the seeds where

they are designed to remain, a very good plan is to select a corner of the garden where the ground is well solidified and perfectly level, and upon this to put two or three inches of rich, fine garden mould. In this sow the seeds about the middle of September. When spring arrives, and the general plan for the arrangement of the flower-garden is determined on, the young plants will be ready for removal to their destined locality. This is best done by means of a perfectly flat spade, which, being driven horizontally under the bed, will take up the loose layer of earth in which the annuals have rooted, not entering the hard surface underneath, by reason of the great density of the soil; this, with care, secures the transplantation of the little annuals, without any such disturbance of the roots as might check growth or induce death.

If we look on a map of the western hemisphere, the slip of country called California presents a very singular aspect. At its northern extremity, at about 32° north, it is joined to the northern part of America, of which it seems a pendulous appendage, reaching down to about 23° , where it terminates in a cape called St. Lucas. Violent hurricanes are not uncommon, but there are no earthquakes, a statement which we ventured to make with respect to England (p. 62), but which was very sensibly falsified about half-past four o'clock a. m. a few mornings ago, when, as we were lying in bed, we were shaken with such violence as to arouse us from sleep. Some there were, whom illness kept awake, who heard a loud rumbling noise under ground; crockery shook; tinware rattled against the walls; pendulums were driven against the sides or

backs of the case in which they vibrated; rafters creaked, and the fabric of slight cottages seemed as though it would yield to the violence of the shaking; but it passed away without sensibly affecting, as it appears, the stability of any structure.

To return to California. In the lower region, timber is said to be very scarce, and the country is such that the greater part of it will not grow a blade of corn. Where the missions are located, in some of the sheltered valleys, there different kinds of fruit are found, and maize is cultivated. Dates, figs, and other fruits are dried and preserved for exportation; a small quantity of wine is made for the same purpose, and from the muscat grape a spirit is distilled. Cattle are numerous, and wild animals and reptiles are more abundant than agreeable. The missions seem to have succeeded, for we are told that nearly half the native population profess Christianity.

Upper California is a large country belonging to the United States. In the eastern part lies the vast country between the Rocky Mountains on the east, and the Sierra Nevada on the west. In it are mountains and deserts; but along its rivers much of the country is comparatively fertile and well-wooded. The north-western part of inland California lies between the Sierra Nevada and the mountains to the east of the Utah and Great Salt Lakes. A small part of this immense space is less barren than the rest; and on one spot, near the Great Salt Lake, a body of the deluded sect called Mormonites have established themselves, and this is the only settlement of whites in this region.

We pass on to the mineral products of this country. The discovery of gold in great abundance increased the population tenfold in a year or two. The gold region is between four hundred and five hundred miles long, and from forty to fifty miles broad, and follows the line of the Sierra Nevada. The principal formation, or substratum, in the hills is talcose slate; the superstratum, sometimes penetrating to a great depth, is quartz. The indications noted and evidence given, have led to the opinion being universally admitted among miners, and intelligent men who have examined this region, that the gold, whether in detached particles and pieces, or in veins, was created in combination with the quartz. Gold is not found on the surface of the country as though it had been thrown up and scattered by volcanic action; it is found in the bars and shoals of the rivers, in ravines, and what are called "dry diggings." The rivers, in forcing their channels, or breaking their way through the hills, have come in contact with the quartz containing the gold veins, and by constant attrition cut the gold into fine flakes and dust, and it is found among the sand and gravel of their beds at those places where the swiftness of the current reduces it, in the dry season, to the narrowest possible limits, and where a wide margin is consequently left on each side, over which the water rushes, during the wet season, with great force.

In the dry diggings gold is found as it was made, in all imaginable shapes; in pieces of all sizes, from one grain to several pounds in weight. Quartz and gold are found combined in large quantities. Many

pieces of gold found there have more or less of gold adhering to them. In many specimens they are so combined they cannot be separated, without reducing the whole mass to powder, and subjecting it to the action of quicksilver. The value of the gold collected in 1849 has been estimated at eight millions sterling.

CONCRETE-STYLED FLAX.

Linum, *Bauh.* Le Lin, *Fr.* Der Flachs, *Ger.* Vlasch, *Dut.* Lano, *It.* and *Sp.* Bad, *Hib.* Len, *Russ.* and *Pol.* Hor, *Dan.* Iam, *Sued.*

WE need not here dwell upon the great utility of the Flax plant, because every body knows how valuable a production of the earth it is. There are numerous species: one said to be indigenous to Great Britain, the most useful (*L. usitatissimum*), and not devoid of attractions; two are weeds; and the rest are at least ornamental. Of this last class is the one under consideration, which is a perennial plant, of a deciduous habit, and herbaceous. It grows two feet high, and expands its pretty white flowers in the sunny season of June, July, and August. It is a native of New Zealand, from whence it was imported in 1832. This species of Flax is propagated by seeds, and thrives well in sandy loam. The plant is smooth, and grows erect. Its leaves are lanceolate, acute, three-nerved; flowers corymbose. It belongs to the Linnæan class *Pentandria*, and order *Pentagynia*, and to the natural order *Caryophyllæ*.

New Zealand lies nearly at our antipodes, and between 35° and 47° south latitude, and 166° and 179° east longitude. It was first found by Tasman,

in 1642, but the extent of the islands which form the group, and their character, were not known until Captain Cook visited them in 1769 and 1774. From that time until 1815, no settlement appears to have been made, and though it was acknowledged at the peace to be subject to British rule, no regularly-constituted authority was appointed there until 1833, when a resident was sent with limited power; and in 1841 the country was erected into a bishopric, which was placed under the supervision of the excellent Dr. Selwyn, whose labours, privations, and dangers are so well known and so highly valued.

The climate of New Zealand is temperate, and is said to resemble very much that of the south of England. The average temperature at Wellington is about two degrees higher than at London; that of winter is nearly nine degrees higher, of the coldest month seven, and of the hottest scarcely one. The quantity of rain which falls at London is to that which falls at Wellington as six to seven nearly; and the number of days on which rain falls at Wellington is to those on which it falls at London as sixty-four to eighty-nine.

New Zealand appears to have an almost perpetual vegetation, since the great bulk of its indigenous plants are evergreens. The soil is of that character which renders it adapted to the growth of all the most useful vegetables of England; and this so nearly, that the English farmer emigrating thither has nothing to unlearn in the management of the soil. "Turnips grow with a vigour unsurpassed anywhere; beans, peas, and other leguminous plants are

equally successful. To the English emigrant, his old familiar crops will be the crops of his new country; his husbandry maxims will scarcely require any variation, except in the transposition of his seedtime and harvest; and the gooseberries and currants of his garden, the apples and cherries of his orchard, and the hum of his bees, will all serve to remind him of his native country." There are no indigenous mammalia. Pigs were brought thither by Captain Cook, and have multiplied prodigiously, thriving remarkably well on fern roots, of which they seem to be very fond. They are allowed to run wild, and are caught by dogs. Cattle, horses, sheep, and other animals have been imported, and are thriving. Its resources as to coal, useful metals, timber, flax, wool, etc., are such that New Zealand may be reasonably expected to become one of our most prosperous colonies.

WHITE-MARGINED FUNKIA.

THIS plant is an evergreen, herbaceous plant, of perennial duration, growing about a foot and a half high, and bearing pretty lilac flowers on a raceme in the genial month of July. The Funkia, so called in memory of Henry Funk, a German cryptogamist of some celebrity, was imported from Japan, it is said, in the year 1837. The means by which it is propagated is by division of the roots, and its favourite soil is a sandy loam. The leaves of the plant are all radical. They are furnished with footstalks; their form is ovate-lanceolate, and the point is very acute. The whole leaf is elegantly margined with white. The petioles are longer than the leaves. The racemes are furnished with from twelve to fourteen flowers. Bractea are ovate, and twice as long as the pedicles or small footstalks of the flowers. It is of the Linnæan class *Hexandria*, and order *Monogynia*, and of the natural order *Hemerocallideæ*.

Japan is an empire, consisting of five large islands and several small ones, between the thirtieth and fiftieth parallels of north latitude, and between the 128th and 151st degrees of east longitude. It is a country difficult of access to Europeans, owing partly to the jealousy of the government, excited by the

attempts of the Jesuits to convert the people to Christianity. The shores also are either so rocky or so flat that vessels can rarely approach near enough to make accurate observations. The country is so diligently cultivated, that one writer says, "it would be difficult to find in the country a single nook of untilled land, even to the dry summits of the mountains." Rice is grown to a great extent, and it constitutes the basis of the nourishment of the Japanese. It is perhaps the plant which sustains the greatest number of the human race, and one of those which, in a given space, produce the largest quantity of nutritive matter. It contains more fecula than wheat, potatoes, or maize, and is therefore better fitted for exportation. Wheat is not much grown nor highly regarded. A bean, the *soja dolichos*, is raised in great abundance, and from it is made the well-known sauce which we call "Soy." Great varieties of the fruits peculiar to the south of Europe are also grown plentifully, and the tea-tree, imported from China, forms all their hedgerows, and, while fencing their possessions, yields them an abundance of leaves for their domestic use.

BROAD-LEAVED CISTUS.

THE species of the Rock-Rose are generally free-flowering plants, and their blossoms very pretty. The flowers are generally white. Most of them will live in the open air throughout the ungenial season of winter, provided the coldness of it be not unusually severe. The plants have a tendency to assume a naked appearance in the lower parts, and consequently it is difficult to keep them in a neat and satisfactory form. Sometimes, in very severe winters, they will perish partially; at other times altogether. They are most successfully cultivated in glass cases, which can be removed entirely in dry weather. It is a safe plan to keep some at least, of all the varieties grown, in pots, so that they can be removed into shelter when sharp frosts occur; from these pots the plants can easily be transferred to the borders in spring, where they will grow prosperously and flower well. They will thrive in any common soil, or a mixture of loam and peat will be well suited to them. The propagation may be effected by layers. Young cuttings, immediately they are ripened, taken off from the parent plant at a joint, and planted under a hand-glass, will readily root. Plants may also be raised from seed which is ripened in abundance.

There are many species of this genus, of which the one (*C. latifolius*) grouped in our plate was imported from Barbary in 1656. It is very ornamental, growing four feet high, and bearing its large white flowers in the month of June. The leaves are broadly cordate and acutely pointed. The margins of the leaves are waved, denticulated, and fringed with short hair. The foot-stalks of the flowers are bracteate, furnished with bractææ, small leaves placed near the calyx or flower-cup.

Barbary is the name given to all the country which lies north of the Desert of Sahara, and west of the twenty-fifth degree of east longitude. It consists of several distinct States, namely, Algiers, Barca, Fezzan, Morocco and Fez, Tripoli, and Tunis. Its extent is between six and seven hundred square miles, and its population is said to exceed ten millions. The common notion that the name was given to this country on account of the barbarous character of the inhabitants is altogether erroneous. The truth is, that the ancient people of the States were called Berbers, whence it appears that the correct name of the land would be Berbery. The pronunciation of *e* in the first syllable has led to the alteration in the spelling of the word, and the manner in which it has been written has thus led to the erroneous inference as to its origin. That this supposition is very probable, appears from the fact that the letter *e* in names of ancient towns, places, and families in England, is commonly pronounced *a*, as in *Berkshire*, pronounced *Barkshire*, *Derby*, *Darby*, etc., and in innumerable

instances the modern spelling of names differs from the ancient in that particular.

Barbary was in the ages of antiquity the seat of Carthage, famous in the annals of the world as the great rival of Rome in her commercial and political career. Between these two republics there was a fierce war, of long duration, and often of doubtful issue as to which should be the mistress of the world, until at last the former yielded to the energy of the latter, and became an integral part of the vast Roman empire.

Barbary presents every variety of surface in its large territory, and all the various fruits and grains common to southern Europe grow to perfection. The character of the climate is excellent, and there is abundance of water. The crops are stated to be very luxuriant, notwithstanding the universal neglect of tillage, whence we conclude that the capabilities of the land are great, if properly cultivated and developed.

Algiers, one of the Barbary States, has been much before English eyes of late years in consequence of the French expedition against it, and its subjugation, a result which has been deemed more likely to weaken than to strengthen the victorious power. It was the most powerful of the States, but from 1830 the French have been in possession. Speaking of the western province of this State, a writer says: "If we conceive a number of hills, usually of the perpendicular height of four hundred, five hundred, or six hundred yards, with an easy ascent, and several groves of fruit and forest-trees rising up in a succession of ranges one

behind another, and if to this prospect we here and there add a rocky precipice of a superior eminence and difficult access, and place upon the side or summit of it a mud-walled *dashkerah*, or village of the Kabyles, we shall then have a just idea of the Atlas bounding the Tell," that is, the land north of the greater Atlas. Here there is great fertility, with an immense extent of arable land, and the mountains even to their very summits are clad with fruit-trees. The scenery is very picturesque, and the country supplies an abundant variety of delightful prospects and wide extensive views.

From Algiers we have received a species of the Rock-Rose or Cistus (*C. heterophyllus*), which is about two feet high, and bears an ornamental flower of purple hue in June and July. Besides this there are many species, all more or less ornamental, amongst which is the fragrant Gum Cistus (*C. ladaniferus*), which imparts such an agreeable odour to the various fumigating substances used in modern practice; also the villous Rock-Rose (*C. villosa*), which is worthy of notice on account of its strong woody stem, and the flowers being produced at the ends of the branches, four or five together, nearly in the shape of an umbel, although there is rarely more than one flower open at one time. The petals are large, of a purple colour, and they spread themselves open like the rose. The flowers are, however, but of brief duration, for in general the petals fall off the very day on which they expand; though this ephemeral character is to some extent compensated for by the constant daily succession of flowers for the greater part of the months of

May and June. There is also a like succession, commonly, in September and October, if the season be propitious, and still later also even in winter, if the plants be carefully shielded from frosts.

The Broad-leaved Cistus (*C. latifolius*) is, with its species, in the Linnæan class *Polyandria*, and order *Monogynia*, and in the natural order *Cistincæ*.

BUNGE'S ROSE CAMPION.

“ Maternal Flora! show thy face,
 And let thy hand be seen,
 Thy hand here sprinkling tiny flowers,
 That, as they touch the green,
 Take root (so seems it) and look up
 In honour of their queen.”

WORDSWORTH.

THE year is ended, and the flowers of our native land have, with few exceptions, long ceased to bloom. 'Twas only the other day, indeed, that we saw the beautiful wild pansy blooming in full vigour, and larger, we thought, than those that deck the fields in summer. But the new year has begun, and we may invoke Flora, in the words of the poet, once again to renew the dispensation of her annual favours, to let her hand again be seen spreading forth in due succession our favourite field-flowers, the primrose, the violet, the strawberry-like potentilla, the pretty celandine—

“ That shrinks, like many more, from cold and rain ;
 And, the first moment that the sun may shine,
 Bright as the sun himself, is out again !”

WORDSWORTH.

And many others, each beautiful in their season, which anon come upon us so suddenly, we might fancy Flora

sprinkled them, by the hands of winged fairy messengers, ready supplied with roots, which by the impetus of their descent, light as that may be, penetrated the earth, to seek their future nourishment, and gain "a local habitation and a name," and then giving homage to their queen for fixing their abode in soils so suitable.

The flower named at the head of this article belongs to one of our commonest and prettiest flowers, though it may be that the plant which it adorns has no attractions of itself; the corn-cockle, whose purple blossoms add much beauty to our fields, though no profit. Its Greek name, *Agrostemma*, well describes it as the "crown of the field," for such distinction it is well entitled to receive. The present species (*A. Bungeana*) was imported from Asiatic Russia in 1834. It is an herbaceous perennial, very pretty and ornamental, and displays its rich scarlet flowers in the month of July. The plant grows a foot and a half high, and is furnished with egg-shaped and lanceolate leaves, slightly covered with down. The flowers grow solitary upon the plant, having their petals cut. The Rose Champion belongs to the Linnæan class *Decandria*, and order *Pentagynia*, and to the natural order *Caryophyllæ*. It is increased by cuttings and division of the roots.

Asiatic Russia is the north part of the continent of Asia, and comprises about one-fourth of the whole. On its western side it reaches from latitude 52° to 63° north, and at the eastern, from 49° to 64° . At its north-eastern extremity, in latitude 60° , it is separated from North America by Behring's Straits,

across which Russia has extended her dominion, occupying what is called Russian-America. It extends eastward from longitude 58° to 187° . The Oural Mountains separate it from Russia in Europe.

The accurate author Pleschéyéï thus describes Russia in Asia, which lies on the eastern side of the Oural Mountains, and is "known by the name of Siberia. It is generally a flat tract of vast extent, declining imperceptibly towards the Frozen Ocean, and rising thence by equally imperceptible degrees, towards its southern border, where at last it is lost in the immense mountain-ranges which separate the Russian and Chinese empires. It is unnecessary to notice in detail the different great divisions in this vast territory. In general it may be stated, that the more southerly portion of Siberia, or that between the south frontier of the empire and the 57th or 60th degree of latitude, as far east as the river Lena, has, for the most part, a fertile soil, and that, notwithstanding the severity of the climate, it produces most kinds of grain. But, owing to the increase of cold and the nature of the soil, the more northerly portion of the region now noticed, or that extending from the 57th or 60th degree of latitude to the Frozen Ocean, and the whole country east of the Lena, from the frontier of Manchooria northwards, is wholly, or almost wholly, unfit either for cultivation or for the grazing of cattle. In the east a portion of this vast tract is mountainous, but it mostly consists of immense levels, full of swamps and bogs, covered with snow, which would be totally impassable were it not that the ice,

which never thaws deeper than a few inches, gives a firm under footing."

The climate of Russia is intensely cold. The agreeable season of spring, so full of enjoyment and hope of the more joyous season of summer with us, has hardly any existence in Russia. The frost disappears suddenly, and is at once almost succeeded by fine weather. The earth, which was just before covered with snow and ice, seems by magic, as it were, immediately covered with vegetation. Corn of all kinds grows in rich abundance, and in the south, fruits of every species reward man's industry, and in some parts the vine is cultivated, though the wine it yields falls far short of the generous products of warmer climes.

CURLED-FLOWERED JASMINE.

THE Jasmine is now a common and favourite flower in every garden; it is, however, one of those which foreign lands have yielded to the adventurous sons of England. The earliest imported seems to be that of 1548, and it is not improbable that one or more may have been growing in the court of Naworth Castle, and so have greeted the eye of Border chiefs, although it is highly probable that no one of them ever cared for its beauty or its fragrance. Lord Morpeth seems to have thought it impossible that the rough chieftains, engaged in border frays, or having their minds stained with crimes common to the feudal ages, could ever have loved the Jasmine-tree; and rightly too, we think, for the influence of such a lovely specimen of Nature's favourites was likely to be unfelt by their rough minds, and was only suited then to be an object of care and attention to the neglected fair, who were rarely joined in their domestic employments by their warlike lords, whose home occupations were too commonly limited to the dining-hall and its revelry. Lord Morpeth's (now Lord Carlisle) verses are well worthy of their subject:

" My slight and slender Jasmine-tree,
That bloomest on my Border-tower,
Thou art more dearly loved by me,
Than all the wealth of fairy bower.

I ask not, while I near thee dwell,
 Arabia's spice or Syria's rose ;
 Thy bright festoons more freshly smell,
 Thy virgin white more freshly glows.

My mild and winsome Jasmine-tree,
 That climb'st up the dark grey wall,
 Thy tiny flowrets seem in glee,
 Like silver spray-drops down to fall ;
 Say, did they from their leaves thus peep,
 When mailed moss-troopers rode the hill ;
 When helmed warders paced the keep,
 And bugles blew for belted Will ?

My free and feathery Jasmine-tree,
 Within the fragrance of thy breath,
 Yon dungeon grated to its key,
 And the chained captive pined for death.
 On Border fray, on feudal crime,
 I dream not while I gaze on thee ;
 The chieftains of that stern old time
 Could ne'er have loved a Jasmine-tree."

Not a little surprised was Miss Twamley to think that the aristocratic poet should seem to forget that in those days there were ladies fair, and, led astray by his forgetfulness or his enchantment with the Jasmine-tree, that he

" did not tell
 Of ladies beautiful and gay,
 Who must have loved the Jasmine well—"

and inspired by the marvel which was thus excited, she very prettily inquires and answers—

" And might not e'en the Jasmine-tree
 In sterner days enwreath the tower,
 Which now it robes luxuriantly,
 With emerald leaf and pearly flower ?
 Were none but warriors tenants here,
 The armed serf, the belted knight,
 With falchion keen, and poised spear,
 Helm, shield, and cuirass gleaming bright ?

I know they'd pass the Jasmine-tree,
 Nor even glance at aught so frail,
 While o'er them waved triumphantly
 Their banners in the morning gale ;
 I know the fragrance that it cast,
 Their rugged souls no joy could yield :
 They only heard the trumpet's blast
 That called them to the battle-field.

But did none love the Jasmine-tree ?
 Yes !—Beauty in her turret bower,
 Cherished its gentle purity,
 And culled the fair and fragrant flower.
 It nestled 'midst her raven hair,
 It wreathed around her lofty brow,
 And, sooth, no easy task it were
 To say which were the purer snow.'

Of such like is the poetry which the beautiful white Jasmine inspires, and not less beautiful is the curled-flowered Yellow Jasmine (*J. revolutum*), with which our group is graced. Its introduction amongst us is much more recent, since it appears to have been brought from the East Indies in the year 1812. It grows as high as twelve feet, is very ornamental, and blooms more or less constantly from May to October. Its leaves grow in about three pairs, and are ovate-lanceolate, on short stalks. The cyme is terminal, with a smaller or greater number of flowers growing loosely. There are several other species of this very ornamental genus, which falls into the Linnæan class *Diandria*, and order *Monogynia*, and gives its own name to the natural order *Jasminææ*.

Miss Jane Taylor is a great admirer of the Jasmine, as the following agreeable poetic address to it testifies.

" Sweet Jessamine, long may thy elegant flower
 Breathe fragrance and solace for me ;
 And long thy green sprigs overshadow the bower
 Devoted to friendship and thee.

The eye that was dazzled where lilies and roses
Their brilliant assemblage displayed,
With grateful delight on thy verdure reposes,
A tranquil and delicate shade.

But ah ! what dejection that foliage expresses,
Which pensively droops on her breast !
The dew of the evening has laden her tresses,
And it stands like a tear on her crest.

I'll watch by thy side through the gloom of the night,
Impatient till morning appears ;
No charm can awake this heart to delight,
My Jessamine, while thou art in tears.

But soon will the shadows of night be withdrawn,
Which ever in mercy are given ;
And thou shalt be cheered by the light of the moon,
And fann'd by the breezes of heaven.

And still may thy tranquil and delicate shade
Yield fragrance and solace to me ;
For though all the flowers in my garden should fade,
My heart will repose upon thee."

COMMELINA.

THIS is a very pretty genus of plants, containing species brought from various parts of the world, as America, Cape of Good Hope, Bengal, Virginia, Mexico, and Caraccas. The flowers are for the most part blue; those of the plant in our group are sky-blue, whence the flower has been called *C. cælestis*, or Sky-blue Commeline. Miss Twamley has very sweetly and fancifully accounted for its azure hue in relating the supposed proceedings of the Flower Fairy, who is described as assuring the flowers that not one of them could approach in their beauty the matchless tints of "Fairy-land's radiant heaven." Hearing this—

"One sly little bud resolved to see
 What the tint of this elfin heaven might be;
 And when the fay
 Spread her gossamer wings, to fly away
 For a transient glimpse of her home so bright,
 There clung to her foot a seedling light
 Of the Commeline-flower; and up they go,
 (While marvelled the fairy what pinched her so,)
 Aloft, aloft!
 On pinions soft,
 The fairy flew onward with strengthening speed,
 And taking heed
 To be mute and still, and watchful, too,
 Went on the adventurous Commeline-seed.

 And when once there, clear, and bright, and high
 Rose the dazzling canopied fairy sky,

No longer wondered young Commeline
That the azure of earth as dim was seen
By their gentle and guardian elfin queen ;
For the irises deep, and convolvuli fair,
And each *blue-bell*, though brilliant, and sweet, and rare,
Aye, even the famed forget-me-not,
Were dim 'neath the sky of that fairy spot.
But the Commeline seedling resolved to show,
Among earthly flowers, that radiant glow,
And eagerly gazed unwearied up,
To catch a ray in her tiny cup,
That when on her young stem flow'rets grew,
They might robe them in elf-land's purest blue.

When the fairy returned to the flowers of earth,
Young Commeline sank to her place of birth,
And quietly slept in a darksome cell,
While the leaves grew ~~ere~~ere, and brown, and fell.
Through the chill, frozen winter she lay asleep,
Nor till spring called her forth began to peep ;
But when summer's gay wreaths had closed the bowers,
Then, brightest of all, came the Commeline-flowers,
All clad in the pure and the beautiful hue
Of the fairy-land heaven—celestial blue.

The flowers' fairy-queen paused, pleased and amazed,
As, descending one day, for the first time she gazed
On the brilliant and deep hue the Commeline wore,
So far fairer than e'er she had seen it before.
And from that day the sprite to loved fairy-land flew
Less often than e'er she was wonted to do ;
For whenever she pined for its brilliant blue sky,
She need but to gaze on the Commeline's eye."

The Sky-blue Commeline (*C. cœlestis*) is an ornamental tender perennial, growing about a foot and a half high, and flowering in June and July. It was imported in 1813. The involucre, or bractæ, which surround the flowers of umbelliferous plants in a whorl, are ovate-acuminate, folded together. The footstalks of the leaves are slightly downy, and those of the flowers smooth. The leaves are oblong-lanceolate ; the sheaths ciliated. It belongs to the Linnæan class

Triandria, and order *Monogynia*, and itself originates the name of the natural order *Commelineæ*.

The Commeline was named thus by Plumier, in honour of the brothers John and Gaspar Commelin, botanists and Dutch merchants. The species are readily cultivated in moist places in the greenhouse or stove, and are easily propagated by cuttings, by division of the roots, or from the rooting-joints of the stem.

Caraccas is one of the chief towns of Colombia, and the capital of the Republic of Venezuela. It stands in a valley elevated nearly three thousand feet above the level of the sea. It is on the northern frontier of Colombia, near 10° north latitude. The situation is unexceptionable; the climate healthy and temperate, but very variable. These advantages, however, are counterbalanced by its liability to shocks of earthquakes. The Guayra and some other small rivers furnish an abundant supply of water for public and private uses. In the year 1812 a terrible earthquake destroyed all the churches except the cathedral, which seems to have owed its preservation to its weight, being massively built. At the same time nine out of ten of all the houses were thrown down, and nearly ten thousand of the people were killed. The inhabitants have since then constructed the houses of inferior and lighter materials. The walls consist chiefly of mud or clay dried by the sun, and are whitewashed. The roofs are tiled. The streets cross each other at right angles, are well paved, and of considerable width, so that the place has the appearance of being regularly if not substantially built. Its present population is about 24,000.

THE CHRISTMAS ROSE.

Helleborus, *L.* L'Hellébore, *Fr.* Die Nieswurz, *Ger.* Nieskrud, *Dut.*
 Elleboro, *Ital.* Eleboro, *Sp.* Heleboro, *Port.* Nyseurt, *Dan.* Prus-
 trob, *Swed.*

THIS native of Austria is one of the most cherished flowers of the English parterre, although, since its first importation into our gardens, others, arrayed in warmer tints and more glowing hues, have been brought to rival her charms. Yet still, though lowly her growth, she is not passed by as we survey the now rather gloomy-looking earth, rendered still more sad by the dense and dark atmosphere, the deep neutral tint of the canopy above, and the absence of the sun, whose presence, in radiant light and beauty, renders all nature cheerful. We mark with glad eye the cluster of large flowers which adorn the plant, the average height of which does not exceed twelve inches, in their strong contrast with the black earth in which it grows. The Christmas Rose is indeed an ornamental plant, the flower-stalks and leaves of which spring from a thick, black rhizoma. It is to the colour of the rhizoma that the plant is indebted for its specific name "niger." The leaves are furnished with long foot-stalks, and their limb is subdivided into several toothed lobes. At the base of the flower-stalk there

is a membranous sheath, and below the showy white flower one or two scale-like bracts. Sometimes there are two flowers on the same stalk. The flower-cup consists of five sepals somewhat rounded, which are at first pure white, but after flowering they are persistent, and turn green. The corolla has from eight to ten tubular petals, which secrete a sweet fluid or nectar; these were formerly called the nectarics. The flower was thought to have no calyx, and the sepals were called petals.

The Christmas Rose presents to us its cheerful blossoms about the festive season whose name it bears, and continues to bloom from that time until March. From the period of the year at which it expands its flowers, it well illustrates the following lines of Bernard Barton :—

“Flowers, as the changing seasons roll along,
Still wait on earth, and added beauties lend.
Around the smiling Spring a lovely throng
With eager rivalry her steps attend ;
Others with Summer’s brighter glories blend ;
Some grace mild Autumn’s more majestic mien ;
While some few lingering blooms the brow befriend
Of hoary Winter, and with grace serene
Enwreath the king of storms with mercy’s gentle sheen.”

The pale beauty of this flower, displayed so clearly amid the desolation of winter, oft-times when the stormy wind rushes with fearful impetuosity over moor and lea, over field and garden, and when the black clouds let fall their torrents of rain, or with fearful violence discharge their contents in pelting hail, has suggested it to a devout mind as a fitting emblem of the Christian’s faith, and has produced the following pleasing verses :—

“ Pale blossom of the parting year,
 Arrayed in simple spotless gear,
 Gemming the drear earth with thy bloom,
 Our welcome hath no gladness ;
 For thought, from the surrounding gloom,
 Hath borrowed tinge of sadness.

Thou hast a tale of bygone hours,
 A tale of withered summer flowers !
 To pensive thought, perchance, addressed,
 Thou tell'st of hours wasted ;
 Of joy's bright wing that would not rest,
 But soon to sorrow hasted.

Of hope that, ere it blossomed, faded,—
 Of bright days oft by dark clouds shaded,
 Of happy hours too quickly past ;
 For earthly joys are fleeting all,
 In vain we seek for such as last,
 And do not in enjoyment pall.

Yet now, though darkness shroud the earth,
 To this drear hour we owe thy birth.
 Be thou, then, emblem, Winter's flower,
 Of faith that brightens 'mid despair.
 What though the threatening tempest lower,
 The Christian's faith still blossoms fair.”

Another anonymous writer is reminded by the Christmas Rose of one of those gentle spirits who are always ready to minister to and console the sorrowing:—

“ Right dear to me, as well may be,
 That clear and even mind ;
 So temperate in prosperity,
 In sorrow firm and kind !

To see her on life's holidays,
 How mirthfully looks she ;
 While all along its common ways
 Who fares so modestly ?

Her heart, it dwells in simpleness,
 Nor can she veil the light
 That beams from one so formed to bless
 Each season, dark or bright.

She was not changed when sorrow came,
That awed the sternest men :
It rather seemed she kept her flame
To comfort us till then.

But sorrow passed, and others smiled,
With happiness once more ;
And she drew back,—the spirit mild
She still had been before.

Lady, thou mind'st me of a flower,
Each child of nature knows,
Possess'd like thee of rarest power,—
My steadfast Christmas Rose.

All through the year 'tis evergreen,
In Winter bright alone ;
It shrinks when Spring's gay tribe is seen,
And blushes to be gone."

The Christmas Rose (*Helleborus niger*) has its generic name formed from two Greek words *ἐλαιν*, to cause death, and *βοχα*, food, because of the poisonous qualities of the plant. The Christmas Rose, and another species (*H. fætidus*), have long been used in popular medicine. The latter species, which is clad with deep green and finely-divided leaves, is a highly ornamental evergreen bush for the shrubbery.

The Christmas Rose was imported from Austria, which is one of the largest, as well as the most populous and important of the States of Europe. It is composed of several minor States, of various extent and population, and which constitute a compact territory lying in central and southern Europe. The most interesting feature which strikes us in the condition of Austria, is the care it takes of the education of the people. "The foundation of elementary instruction," says Mr. Macgregor, "was first laid in the early part

of the last century; and, soon after, about one in twenty-five of the inhabitants were taught to read." A law was made in 1821, which "directs that no village in the hereditary dominions shall be without an elementary school; that no male shall enter the married state, who is not able to read, write, and understand casting up accounts; that no master of any trade shall, without paying a heavy penalty, employ workmen who are not able to read and write; and that small books of moral tendency shall be published and distributed, at the lowest possible price, to all the emperor's subjects."

This law seems to have been generally put in force; for Mr. Macgregor says that he nowhere met with any one under thirty years of age who was unable to read and write. Religious and moral tracts, and almanacks, containing simple advice on husbandry and rural economy, with moral sayings and suitable maxims, abound. "The spirit of elementary instruction, if not the most enlightened, inculcates, at every step, morality, the advantage and happiness of a virtuous life, the evils of vice, and the misery consequent on crime."

In Hungary and Transylvania, the system does not seem so practically carried out, but yet there is scarcely a village without one school or more. There are difficulties, however, which are not unknown to us in places of small population; where the inhabitants are all of one religion, of course there are none. Where there are differences, the poorer children generally attend the school of the more powerful body, which is commonly Roman Catholic. "The

education," Mr. Paget says, "extends to reading, writing, arithmetic, moral maxims, and sometimes a little geography, history, and Latin grammar. These schools are maintained and the masters chosen by the peasants themselves, the landlord being obliged to give ground for a school-house, and thirty or forty acres of land for the use of the master. The payment is for the most part in kind or in labour."

With all our boasted freedom, intelligence, and enterprise, the condition of our people is far inferior to that of the Austrians in point of education; and there seem to be difficulties in the way of an improved system of instruction, which our many divisions are likely to render next to insurmountable. The alienation of tithes from the church by the state has not only alienated the affections of immense masses of the people from the church, but has had the effect of narrowing the provision for the clergy to such an extent in innumerable cases, that however willing they may be to promote the education of the people, and to supply the means for its advancement, they are unable to do what they desire; while the landowners and occupiers excuse their want of liberality for the purposes of education, by pleading that they already pay large sums of money, which, though alienated from the object to which it was originally devoted, yet in common honesty, apart from any consideration of the law of the land, ought to be restored to the channel from which it has been diverted. That such a state of things is wrong there can be no doubt. That a radical reform, as respects the temporalities of the church, is needed there can be no less doubt; and if it be im-

possible to restore to her the means she once possessed, and thus enable her to educate her people, it is possible and most desirable to relieve her from the odium of receiving large revenues which never reach her coffers, but are in truth alienated for the benefit of many who have no sympathy with her holy work.

The Christmas Rose (*Helleborus niger*) is in the Linnæan class *Polyandria*, and order *Polygynia*, and in the natural order *Ranunculaceæ*.

JAPAN QUINCE.

Cydonia, Tou. Coignassier, *Fr.* Der Quittenbaum, *Ger.* Kweelboom, *Dutch.* Cotogno, *It.* Membrillero, *Sp.* Marmeleiro, *Port.* Haivah, *Pers.* Armud, *Rus.* Pigwa, *Pol.*

THIS species of the Quince is an ornamental evergreen shrub, clad with smooth shining leaves, growing about four feet high, and bearing flowers of great brilliancy, varying from the richest scarlet to the most delicate blush colour. It is hardy in its nature, and admirably adapted for planting as single shrubs, upon grass, or for forming an ornamental fence in a flower-garden. It is propagated by layers, and thrives well in rich loam.

The Quince is nearly allied to the genus *Pyrus*, and the Japan Quince is not seldom called the *Pyrus Japonica*, or Japan Pear; we know not whether the latter generic name misled Miss Twamley, and so suggested the thought that this flower might be regarded as "the Fairies' Fire," but under such a title has she written a few fanciful lines in connection with this flower :

"See, where the first pale sunbeams of the year
Fall faintly, fearfully, upon the snow,
That rests in wreathed flakes on every twig,
Trained with neat care around the window-frame.
So icy cold is everything around,

That even sunshine trembles to alight,
Lest it be frozen too.

Ha ! are they out ?

My summer friends, the fairies ? Surely not ;
Yet who but they have lit these tiny fires,
That gleam and glow amid the wintry scene ?
Yes, here they are, aweary of the storms,
And wrecking winds, and pinching frosts, that keep
Within their darksome prison-house of earth
The gay and spendthrift flowers ; here they are,
Lighting their ruddy beacons at the Sun,
To melt away the snow. See how it falls
In drops of crystal from the glowing spray,
Wreathed with deep crimson buds—the fairy fires.
And now that there is something bright on earth,
The clouds are driven from the clear blue sky,
And heaven is bright'ning too. Serene and calm,
The very air is hushed into repose,
That not a breath may ruffle the young flowers,
Now gently waking into life and light."

We have elsewhere spoken of the position of Japan, and referred to some of its natural productions ; we shall here more fully relate the peculiar notion the inhabitants entertain of the future world. There, they say, is a judge *Emao*, before whom is placed a large mirror, which reflects and brings under his cognizance all the actions of mankind. Near this mirror there stand two spirits, whose office it is to observe and report all that is done by every individual, and a third spirit enters these reports in a book, and by the records thus made the souls of the dead will at the last be judged, and then, according to their sentence, they will be sent to their places of rewards and punishments. *Amida*, the saving deity, is the god of Paradise ; and the way by which a journey on the *Gokurak* may be ensured, is an obedience to five commandments. The *Gokurak* is the road to Para-

dise, which is one only of six places to which departed spirits may be sent. The five commandments are, not to lie, not to commit adultery, not to kill any living creature, not to get drunk, and not to steal. One of the roads for the dead is *Tsikussyo*, which is the way to the hell of animals. From this it is concluded that the Buddhists of Japan believe in the transmigration of souls into animals as well as into men.

The Japan Quince (*Cydonia Japonica*) is in the Linnæan class *Icosandria*, and order *Di-pentagynia*, and in the natural order *Rosaceæ*.

THE WINTER ACONITE.

“ Ere thy sisters fair are waking,
 Deep in earth’s dark bosom sleeping !
 Ere the chains of winter breaking
 Loose the streams their might is breaking ;

With a smile that well had greeted
 Light and song in summer bower,
 On the sheltering calyx seated,
 Shines thy yellow-petalled flower.

Gem of winter ! quickly faded,
 Early loved, and early lost ;
 Type of joy too quickly shaded !
 Of earth’s children tempest-tost !

Still from thee a lesson learning,
 Let us choose the fitting hour
 To soothe, to cheer—nor less discerning
 Prove than winter’s simple flower.”

WE are indebted to a warmer clime than ours for the well-known Aconite. As soon as the old year has passed away and the new opened upon us, we see in nearly every flower-garden the pale blossoms of this general favourite. It comes before the Snowdrop and the Crocus, to remind us, as it were, that flowers of a brighter golden hue are already starting from the bosom of the earth, and that they will soon spread their gay colours to the eye of day. True, there are

seasons when even the Aconite is not needed to console us with the thought that Nature is not dead, and this is one of them, for the rich crimson flowers of the Fuchsia have never ceased since summer fled to cheer us with their beauty; yet we like to look upon each of our favourites in succession as they bloom and fade, for in them we see, as in other plants, the permanence of the promise that "summer and winter, seedtime and harvest, shall not cease."

How few are there of those who greet with a glad welcome the pale flowers of the Aconite that inquire into its origin! How few who even think whether it is a native of their own land, or brought from other fields to cheer our winter days! They little think how that the Aconite is a native of a land famed for sunny skies and a delightful climate, where the winter is brief indeed and not severe; where spring is more to be desired and more enjoyable than even poets have said of it; and though summer is hot, its heat is so reduced by the influence of the mountains and the nearly-surrounding sea, as to render it agreeable. From Italy this plant was first brought, now more than two hundred and fifty years ago, so that it has become acclimatized, and has almost attained the character of an indigenous plant.

The Aconite has inspired a fair lady to sing the following lines. The first line would lead one to suppose that this flower did not bloom until March; but, as its name (*Eranthis hyemalis*) imports, and as we have before stated, it starts into life in the very depth of winter, although there may be seen plants in flower until the sun enters the vernal equinox.

“ When Spring’s sun sheds his cheering gleam,
And Winter’s storms take flight,
At once before his genial beam
Up starts the Aconite.

Nature, her pencil dipt in gold,
Bedecks it in a night,
And as each petal bursts its fold,
Enamels it with light.

On its pale leaves of clearest green,
The pretty flow’ret lies ;
A happy prophoress, I ween,
Of bright and cloudless skies.

But if the sun his beams withhold,
The welcome promise pines ;
Type of the world, that soon grows cold
When fortune’s sun declines.”

The leaves and flower-stalk of the Aconite grow from a fleshy creeping rhizoma, which also throws out fibrous roots. The leaves come up after the flowers, with long foot-stalks, to which their limb is placed nearly perpendicular, and is therefore somewhat peltate. The leaf is deeply cleft into several lobes, and is very smooth and shining. Near the top of the flower-stalks is a round sessile leaf, deeply cut, and, as it is disposed horizontally, it has the character of an involucre, such as is found more distinctly exhibited in the Anemones. At a short distance above this is seated a single flower, the perianth of which is formed of both flower-cup and corolla. The flower-cup consists of five to eight oblong, blunt sepals, so very membranaceous and deeply coloured that they assume the character more usual in a corolla ; they are caducous, which is not the case with the true Hellebores, in which genus this plant was formerly placed.

The Winter Aconite (*Eranthis hyemalis*) is in the Linnæan class *Polyandria*, and order *Polygynia*, and in the natural order *Ranunculaceæ*.

THE TRAILING LOBELIA.

Lobelia, *L.* *Lobelie*, *Fr.* Die Kardinalsblume, *Ger.* Kardinalsbloem, *Dut.* Fior cardinale, *It.* Escurripa, *Sp.* Cardealina, *Port.*

THIS beautiful flower, though small, and growing only on a trailing stem, is not the least attractive of the genus to which it belongs. It loses somewhat for a time when placed side by side with the Shining (*L. fulgens*) scarlet flower, or the Splendid (*L. splendens*) beauty, or the Cardinal-flower (*L. cardinalis*), all showy, and regarded as the three grand ornaments of the genus. But the eye is soon weary of gazing upon large masses of scarlet, and turns to seek relief in the less pretending and more simple beauty of their little sister, whose prostrate stems, clad with oblong toothed leaves, and adorned with pale blue flowers, seem more in keeping with its humbler character. It is a native of the Cape of Good Hope, whence it was imported nearly one hundred years ago.

Lobelias are easily increased by cuttings or slips, or by seeds when they ripen, and they grow well in rich light soil. Justice, detailing the mode of cultivating the Cardinal-flower, says it is a "flower of most handsome appearance, and should not be wanting in curious gardens, on account of the rich colour of its flowers." Very little art is required in the cultivation

of any of the species. One writer, Hedges, states that, in order to get strong flower-stalks, he kept the plants in pots, and shifted them very frequently from small to larger pots, placing them first in cucumber frames, and, when beginning to bloom, in the stove. The pots in which he allowed them to flower were nine inches in diameter, and, in order to supply abundant moisture, pans were placed under the pots, constantly filled with water. The soil used was equal parts of loam and leaf-mould, with a third of the whole of sand.

The *Lobelia* (*L. erinoides*) is in the Linnæan class *Pentandria*, and order *Monogynia*, and in the natural order *Campanulaceæ*.

ERICA AMPULLACEA.

Erica, *L.* La Bruyère, *Fr.* Die Heide, *Ger.* Heide, *Dut.* *Erica*, *Ital.*
Breno, *Sp.* Weresk, *Russ.* Wrzos, *Pol.* Lyng, *Dan.* Laung, *Swed.*

WE have about half a dozen indigenous species of Heath, and varieties of some of them, all beautiful and attractive, though bearing minute flowers. We have elsewhere noticed British Heaths, but there is one which is said to have possessed a peculiar value among the Picts, who are stated to have made a good and wholesome beverage from the Fine-leaved Heath (*E. cinerea*), which is still an abundant species on our heaths and moorlands. How this beverage was prepared we know not, and Boethius assigns a reason for the loss of this knowledge, namely, that those who had the secret of its manufacture communicated it to members of their own body only; hence, when they were exterminated, the art perished with them. Leyden commemorates this traditional value in lines of great beauty and smoothness—

“Though unobtrusive all thy beauties shine,
 Yet boast thou rival of the purple vine!
 For once thy mantling juice was seen to laugh
 In pearly cups, which monarchs loved to quaff;
 And frequent woke the wild inspired lay
 On Teviot's hills, beneath the Pictish sway.”

Of exotic Heaths there is a very great number of

species, chiefly natives of the Cape of Good Hope, whence that named at the head of this article was imported in the year 1790. Its specific name (*ampullacea*) is given to it on account of the resemblance of its flowers in shape to a small flask. It is a very ornamental plant, and puts forth its white-red flowers in the months of June, July, and August. It is an evergreen shrub, a denizen of the greenhouse, and is increased and propagated by cuttings, thriving well in sandy peat. The anthers are beardless, the flowers are four, terminal, leaves four, and bractes remote.

These exotic Heaths being confined to the greenhouse are, of course, known to comparatively few. The flowers which they bear are much larger than those borne by our native species, and some are extremely beautiful. Miss Twamley has a fanciful notion of the contempt with which exotic Heaths regard their fair sisters of our isle. One might suppose she was thinking at the time of the indignity with which the proud Normans treated the rude Saxons when they first took possession of Britain. These are the words which she imagines the greenhouse favourite to address to the humble occupant of the moors:—

“Gems of the sheltered bower are we;
 What know we of wilding flowers like thee?
 Thy rugged stem, hung with purple bells,
 The state of thy lowly lineage tells;
 Thou may'st be met on each open moor,
 'Mong gorse and ling,
 Thou common thing!
 Thy pultry blossoms the children poor,
 And gipsies, bring
 Bound up in bundles to sweep the street;
 And art thou for *our* high presence meet?”

We have been bred up with tenderest care ;
 We know not the breath of the common air ;
 Our delicate stems and modelled forms
 Are shielded from winds, and frosts, and storms ;
 For we are the beautiful, great, and rare.

But what are ye ?

How can ye see

Our stately pride, yet boldly dare

Presumptuously

To raise your heads of humble name

With us, who have titles, and rank, and fame?"

And then she tells us how the Heather replies,
 boasting of its freedom and its sturdy stems; and
 how that all the species declare

"Glorious and glad—and oh! most dear—
 Is the heather-bloom to the mountaineer ;
 And dear to his children, who, laughing come
 And carry bright wreaths to their cottage home.
 As the blessed things roam, 'neath their fairy feet

We rustling dance,

And our heads advance

Their innocent hands to gift and greet ;

For childhood's glance,

When playmates laugh merrily out together,

Like sunlight shimes on the bells of Heather."

And in such like strain they tell them that they are
 slaves to pride; remind them that they are exiles and
 captives; as you would imagine a freeborn Britain, in
 his anger, courageously declaring that "Britons never
 shall be slaves," to the mercenary attendants upon a
 Norman baron.

"In our freedom we scorn such slaves as ye,
 Your empty pride, and your vanity :—
 Ye are fine, 'tis true—and neat and trim,
 But are ye not shut in a prison dim ?
 Ye are captive slaves, though ye boast and sneer,
 And think we should bow to your grandeur here.
 Ours be the grandeur, and ours the glee,
 For we o'er the hills and the heaths wave free.

We bend not our purple and fearless crests
To meaner things, though in gaudier vests.
Freely above us the winds may blow,
Merrily round us the streamlet flow ;
And the promise-toned hum of the busy bee,
The glad day long,
Seems a harvest song
Of joy, for the sweets that from flower and tree,
Around us flung,
And the honeyed bells of the purple Heather,
She hath gathered in store for the wintry weather."

When the Cape of Good Hope fell into the hands of Great Britain, botanical collectors were sent out, who soon found several hundred species and sent them home. All, or nearly all, were transmitted during the reign of George the Third, and the principal collector was Mr. Francis Masson. The propagation and culture of exotic Heaths is a very delicate branch of floricultural art. They will not grow so successfully in any other soil as earth of peat. If a substitute may be named, we believe it is leaf-mould sifted fine, and an admixture of sand. The earth of peat is obtained by gathering peats from bogs, or turf from the surface of peaty wastes and moist places, and laying them in a heap to rot and moulder into earth. Several years elapse before this process is completed; but from time to time small quantities may be gathered by turning over the heap and sifting the fragments. Peat is sometimes found without any mixture of sand; but where it has been taken from places where brooklets have run into the bog or lake while the peat was in process of formation, fine sand, deposited by the water, is found mingled with it. This last kind is most acceptable to the requirements of the Heath genus; and accordingly if the peat procured

is naturally without sand, then there must be added fine white sand, or indeed sand of any colour, if there be no ferruginous properties in it. The necessity for sand arises from the tendency of pure peat earth to become hard and dry, and so impenetrable to water, or to retain water so generally, as to be like a sponge when thoroughly saturated. Sand corrects this tendency, and keeps the soil so open that the water penetrates it and reaches the rootlets of the plant, while the excess of moisture flows away, and thus the roots are not surcharged and in danger of being rotted.

Heaths are strictly greenhouse plants, but in winter they require no more heat than just sufficient to protect them from frost; generally they may be kept in the coldest parts of the greenhouse, and, when out of bloom, in pits sheltered at night by mats. Excess of artificial heat is decidedly injurious. Most of the species might be preserved through winter in frames, if it were not for the difficulty of keeping out the damp.

An abundance of air and light are essential to the successful cultivation of the Heaths. Hence the judicious grower places them near the glass, and in such a position that they may be supplied with the external air every mild day in the year. Oft-repeated supplies of water in small quantities are necessary, so that the soil may not become dry nor the plants droop. Unlike numerous other plants, if once the roots of the Heath become thoroughly dried, no art can save the plant from destruction.

Propagation by cuttings is not the only means by which Heaths are multiplied; layers and seeds are

also found to answer the purpose in some species. Tender tops are taken for cuttings when they begin to grow, which is usually in June; those of the stronger kinds are required larger than those of others, and some of the very dwarf plants must be kept in the hothouse for a time, to draw the young shoots, or no cuttings can be had. The extreme points of the shoots are taken, and the bottom cut off with a sharp penknife at right angles, placing the shoot upon the thumbnail. The cutting is about three quarters of an inch long, or rather more; the leaves are stripped off the lower end for one-half its length, and to do this, a sharp penknife or scissors is used, as the slightest bruise destroys the cutting; then the cuttings are dibbled into pots filled with moist white sand. When all are planted, a gentle watering fixes them, and when the water has subsided, a crystal bell-glass, fitting within the rim of the pot, is placed over them, and they are set in a spent hotbed in the shade, where they are kept quite close till rooted. Some form roots in two months; others are longer, varying from three to twelve months. Their rooting is soon known, as they immediately begin to put forth leaves, when the bell should be removed every day for an hour or two.

Seeds, whether ripened in England or imported, are sown early in the spring, in pots containing a mixture of peat and sand in equal quantities; they are thinly covered with earth, and the whole is gently pressed down, and then covered with bell-glasses. The soil is kept slightly moist by waterings, and in about six or seven weeks, if the seeds are fresh, they will begin to

come up. Then the glasses may be removed gradually, the pots being set near the glass, and protected from the sun's rays till autumn, at which season they may be transplanted into pots of the smallest size.

Heaths belong to the Linnæan class *Octandria*, and order *Monogynia*, and to the natural order *Ericææ*.

THE BLUE HEPATICA.

Hepatica, *Dil.* L'Anémone hépatique, *Fr.* Die Leberblume, *G. r.* Leverkruid, *Dut.* Anemone fegetella, *It.* Anemone hepatica, *Sp.* *Hepatica* uolbre, *Port.* Solotnikowatrava, *Russ.*

“Come forth, ye lovely heralds of the Spring;
 Leave at your Maker's call your earthly bed;
 At His behest your grateful tribute bring
 To light and life, from darkness and the dead.”

BARTON.

THE *Hepatica* is one of the earliest flowers of each opening year. It is a native of the continent of Europe, growing abundantly in Sweden; but has been by some regarded as belonging more decidedly to South Europe, being found in France, Italy, Spain, and Switzerland.

This plant was at one time regarded as a species of the genus *Anemone*, and was classed with that favourite by European botanists; and though a sufficient distinction between them in the formation of the flower has been discovered to justify their separation into two genera, they are both comprised in the same natural order *Ranunculaceæ*.

The root of the *Hepatica* consists of a bundle of fibres, surmounted by a number of scales, and from among these scales there proceed the radical leaves

and flower-stalks. The leaves are supplied with long footstalks, and the limb is cut into three broad lobes. Each flower-stalk bears a solitary flower, and immediately below this is seated a three-lobed involucre, which, owing to its position and its coloured character, has been sometimes regarded as a calyx. The real perianth is formed of a calyx only, usually consisting of six sepals, arranged in a double series. Occasionally a third series is developed of three more. The sepals of this variety are bright blue, but in others they are white or red. The stamens and pistils are numerous, each of the pistils containing a single pendulous ovule. There are also single and double flowers of this favourite perennial. It is now well known in almost every flower-border, where its pretty flowers of various colours and of a variety of shades are greatly admired; while at all seasons its evergreen foliage renders it attractive.

The colour of the flowers of the *Hepatica* depends much upon the soil in which the plant is growing. If one bearing blue flowers be removed into a situation such that its bloom becomes white, it may be restored to its original blue by being replaced in its former situation.

The *Hepatica* has been regarded by many as an indicator of the temperature of the earth; so that when it begins to put forth its blossoms, it is supposed the cultivator of the soil may with confidence sow his seed, assured that then is the most favourable time to scatter it upon the earth so as to ensure the most general germination. The lines here quoted seem to refer to the confidence with which

they are thought to inspire the observer of such indications.

“ Hepaticas are blooming fair ;
The hue of constancy they wear ;
So bright their vestments blue,
That fancy deems the lovely dye
Was stolen from the azure sky,
And painted by the dew.

Soon as the hope of Spring is told,
Their blossoms in his path unfold,
The glowing sun to woo ;
And proves the symbol true.
Their humble confidence is given
To the first promises of heaven.”

The *Hepatica* (*H. triloba*) is ranged in the Linnaean class *Polyandria*, and order *Polygynia*, and in the natural order *Ranunculaceæ*.

POET'S NARCISSUS.

Narcissus, *L.* Narcisse, *Fr.* and *Dan.* Die Narcisse, *Ger.* Narcis, *Dut.*
Narciso, *It.* and *Sp.* Narcizo, *Port.* Narsiss, *Swed.*

“ How beautiful art thou, my winter flower !
Lifting with graceful pride thy stately head,
Heavy with its rich crown of pearl and gold :—
Thou sheddest on the air such soft perfume,
That I could deem 'twas incense, gently flung
Before thy beauty's shrine by some fair sprite
Enamoured of thy maiden loveliness.
The hyacinth and violet entwined
Have scarce so sweet an odour.”

THUS does Miss Twamley apostrophize the flower of the Poet's Narcissus appearing somewhat out of season. Rich and beautiful indeed is this sweet flower, and no praise can be too great for it. It ever was and ever will be a great favourite with those who love the occupants of the parterre and the greenhouse. Its fragrance is very pleasant, and the beauty of the white petals, which are spread out perfectly flat, is greatly enhanced by the golden crown which is in the centre. The nectary is sometimes coloured with a rich purple ring, and at others with one of deep crimson.

The Narcissus is a bulbous-rooted plant, perennial

in its duration, and of course, from what we have said, is very ornamental. It grows about a foot high, bearing its flowers, under ordinary circumstances, about the month of May. The period when it was first imported into England from the south of Europe is unknown. It is propagated by offsets, and thrives very well in common garden soil. The leaves grow erect, and are narrow. Three anthers are shorter than the tube.

The *Narcissus* is of the easiest culture; they may also be forced with great readiness, either in pots of earth or in water. This forcing process may be carried on with greater success by retarding the bulbs one season in an ice-house.

There are many species of this genus, all of great beauty, and all spring flowers, adding very much to the attractions of the greenhouse, and adorning our dwelling-rooms with their cheerful presence, as well as scenting the air with a most delicious fragrance.

Bards of old sang the fable of the transformation of the youth *Narcissus* into this beautiful flower, and modern poets have been inspired by the story and the flower to indite verses of great elegance. Thus writes Keats:—

“ What first inspired a bard of old to sing
Narcissus pining o’er the untainted spring?
In some delicious ramble he had found
A little space, with boughs all woven round;
And in the midst of all a clearer pool
Than e’er reflected in its present cool
The blue sky, here and there serenely peeping,
Through tendril wreaths fantastically creeping.
And on the bank a lonely flower he spied,
A meek and forlorn flower, with nought of pride,

Drooping its beauty o'er the watery clearness,
To woo its own sad image into nearness :
Deaf to light Zephyrus it would not move,
But still would seem to droop, to pine, to love.
So while the poet stood in this sweet spot,
Some fainter gleamings o'er his fancy shot ;
Nor was it long ere he had told the tale
Of young Narcissus and sad Echo's vale."

The Poet's Narcissus belongs to the Linnæan class
Hexandria, and order *Monogynia*, and to the natural
order *Amaryllideæ*.

SCARLET IPOMŒA.

THE genus *Ipomœa* contains a great number of species, all of greater or less beauty, natives of climates much warmer than our own, but having their type in our common bindweed, their resemblance to which has procured for them their generic name.

We have already figured one species (*II. Horsfallii*) a native of Africa. The present is indigenous to the West India islands, whence it was imported in the year 1713. It (*I. coccinea*) is a large and very ornamental species, growing to the length of ten feet. It is one of the choicest denizens of the bark-stove, only annual in its duration, but growing rapidly, and climbing by its twining stems, it displays its bright scarlet flowers from the month of June to September to the admiring eyes of every beholder. It is, of course, propagated by seeds, and it loves a rich mould to grow in. The *Ipomœa coccinea* is a downy plant. The leaves are cordate, acuminate, and angular at the base. The peduncle is five-flowered. The calyx warted and bearded; the limb of the corolla entire.

The splendid colour of the Scarlet *Ipomœa* reminds us of the beautiful lines of Wiffen, addressed to a lady working tapestry :—

“ O lady, leave thy silken thread
And flowery tapestry,

There's living roses on the bush,
And blossoms on the tree ;
Stoop where thou wilt, thy careless hand
Some random bud will meet ;
Thou canst not tread but thou wilt find
The daisy at thy feet.

'Tis like the birthday of the world,
When Earth was born in bloom ;
The light is made of many dyes,
The air is all perfume ;
There's crimson buds, and white, and blue—
The very rainbow showers
Have turned to blossoms where they fell,
And sown the earth with flowers.

There's fairy tulips in the East,
The garden of the Sun ;
The very streams reflect the hues,
And blossom as they run ;
While morn opens like a crimson rose,
Still wet with pearly showers ;
Then, lady, leave the silken thread
Thou turnest into flowers."

ANEMONE JAPONICA.

Anemone, *L.* L'Anémone, *Fr.* Die Anemone, *Ger.* Anemone, *Dut., Ital., Sp., and Port.* Ollina gusa, *Jap.* Wjetreniza, *Russ.*

THE genus to which this pretty plant belongs is known for its showy flowers. The species are all of a hardy character, growing naturally in elevated localities where they are exposed to the winds, and generally blooming at that early season of the year when the wind least favourable to agreeable sensations in the human frame prevails. We mean the east or north-east wind, which, in greater or less degree, visits us in the early spring, and seems to find its way through every pore, and to chill by its influence every nerve; but yet the Wind-flower, so called from *Ανεμος*, wind, on account of its blooming at such a time, bares its petals to the cold embrace of this ungenial air, and thousands upon thousands of the common Wood Anemone deck the surface of our woodlands in March and April. Thick as daisies in the open meadow, do these pretty, simple, white flowers spread themselves in such situations. Beautiful they are with their fair petals, some slightly tinged near the base with pink, and most of them emitting a faint but pleasant fragrance. We have four indigenous species of this genus, in colours of white, yellow, and blue; but of the four,

we prefer the Wood Anemone, from the pure whiteness of its flowers and its great profusion, imparting such beauty to the copse or spinet by its contrast with the brownish-green grass at the early season in which it flowers. The Pasque-flower Anemone is a pretty flower, but not by any means abundant; indeed we may almost regard the plants as solitary, for we have only now and then discovered one on chalky hills, although we may have missed others, by reason of its blue flowers rendering it less visible among the herbage.

There are many imported species, the two best known being the Poppy Anemone (*A. coronaria*) and the Star Anemone (*A. hortensis*); the former a native of the Levant, the latter of Italy. Both these are favourite florists' flowers, highly esteemed for their hardiness, and still more perhaps in their yielding to our management so as to flower at almost any season, just according to the period we keep the roots above ground, and to the time when they are replanted. There are single, double, and semi-double varieties, each being nearly as much esteemed as the other, and the chief prevailing colours are white, blue, and red. A succession of varieties is continually being procured from seed, but they have not risen to such rank as pinks and tulips to be dignified with high-sounding names, not having yet been thought worthy by florists of that distinction.

The Anemone, from the beautiful colours which adorn the different species and their varieties, well deserves the careful attention of the amateur florist. We too often merely admire the flowers which deco-

rate our borders, and then think no more of them ; whereas, if we would observe them more closely, watch the continued changes in their growth, notice the influence which atmospheric changes have upon them, and thus render ourselves intimately acquainted with their physical character, we should gain an interest in them which would add very largely to the amount of gratification we derive from a carefully-kept garden, and at the same time increase the beauty of our flowers by the improved management which our additional knowledge of their habits and requirements had enabled us to bestow upon them.

The remaining species are natives of Portugal, Switzerland, Germany, and France ; together with some from Siberia, Cape of Good Hope, and North America. That which is figured in our group, the Japan Anemone (*A. japonica*), was found in damp woods on the mountain called Kifune in that country, and was introduced by Mr. Fortune into England. According to Siebold, it is extensively cultivated by the Japanese on account of the beauty of its flowers, the colour of which is a pinkish-violet. The plant blooms during summer and until late in the autumn. It is perfectly hardy, and thrives best in a moist soil.

The Anemone prefers a fresh loamy bed, of a heavy nature rather than light. The roots are usually planted three inches deep, towards the end of October, but if planted in September they will bloom much earlier, and we may have them blooming through the year by planting every successive month. The more choice species will not bear violent storms, nor yet an excess of light and heat, without protection ; but yet

there are many that do extremely well as border-flowers. The Anemone is considerably more hardy than the Ranunculus, but unless the surface of the ground above them be mulched, the severe frosts of winter will destroy the roots.

The Anemone is in the Linnæan class *Polyandria*, and order *Polygynia*, and in the natural order *Ranunculaceæ*.

HINDSIA VIOLACEA.

THIS shrub is said to be one of the finest contributions to our exotic plants from South Brazil. It was imported by the Messrs. Veitch, of Exeter, and made known to the public about the year 1844. It is a greenhouse plant, of very easy culture, and is unsurpassed in beauty by blue-flowering shrubs.

We have already had occasion to speak of the extensive country of Brazil, and we therefore note the character of the natives. They are descended from Portuguese parents residing in Brazil, and possess the idle and inactive habits of their forefathers. It is scarcely to be believed how very limited the necessities of the lowest classes are. Their dwellings for the most part are nothing but huts, the skeleton of which is formed of thin poles of wood, and the spaces between filled up with an earthy or clayey plaster, and roofed with straw thatch; such are thought sufficient to shelter them from sun, wind, and rain. A mat made of straw is at once their table, seat, and bed; their kitchen furniture and cooking apparatus are confined to a dish and a pot; while a complete outfit of personal attire consists of two cotton shirts, a calico jacket with linen continuations, a pair of wooden shoes to protect their understandings, and a straw hat of the coarsest manufacture, which is all the

ornament and defence that they bestow upon their head. A plentiful subsistence is supplied to them by a kitchen garden, a few fruit trees, and a manioc field. If besides these they possess a viola (a small guitar strung with metal strings), and some tobacco, wherewith to make their much-loved paper cigars, their fondest wishes are gratified. Smoking the latter and strumming the former, they can beguile whole half-days in a state of enviable forgetfulness, vegetating like the plants. A few fowls, sent to the city from to time, furnish the supplies necessary to be obtained from thence ; and thus are sustained thousands of families, whose yearly income does not exceed twenty milreas, which are equal to about four pounds ten shillings!

ONCIDIUM PELICANUM.

THE genus of orchidaceous plants to which this species belongs derived their generic name from *ογκος*, a tumour, on account of the callosities with which the disk of the labellum is covered. The species are amongst the most beautiful epiphytous plants, and are very conspicuous by their loose panicles of yellow or olive-coloured flowers. The Lofty Oncidium (*O. altissimum*) grows three or four feet high, displaying its yellow flowers in August and September. The Spread-eagle (*O. carthaginense*) species, which is nearly as lofty, puts forth its peculiar-shaped olive-coloured flowers in May and June. There is also the Butterfly-plant (*O. papilio*) of Trinidad, bearing its large yellow and red flowers in the month of March; these are poised on slender footstalks, and seem to dance about in the air like some gaudy insects. The Frog-bearing (*O. raniferum*), with its yellow-spotted flowers, is also a singular and pretty ornament of the bark-stove in August and September; and the species figured in our group is even more remarkable, the flowers resembling as they do a "pelican in her piety" as the heralds

describe that bird when it is supposed to be feeding its young with the blood of its own breast. There is a singular conceit of Henry VIII., in which this fable of the pelican is concerned. When the enemies of Archbishop Cranmer were plotting his destruction, from which he was saved by the king's favour, the king gave, says Southey, at this time, "a memorable instance of his foresight, for he altered the three cranes sable on a field argent, which were part of Cranmer's paternal arms, into three pelicans, telling him, these birds should signify unto him that he ought to be ready, like them, to shed his blood for his young ones, brought up in the faith of Christ: 'for,' said the king, you are like to be tasted at length, if you stand to your tackling.' "

That the act of shedding its blood for its young by the pelican is a fable, is clear. While the female is hatching her eggs, the male bird brings fish to her in his pouch, and the young, when hatched, are carefully attended to by the parents, who feed them by pressing the pouch against the breast, so as to transfer the fish from the former into the throats of the young. This action carelessly observed has, no doubt, originated the fable alluded to.

The Pelican-like *Oncidium* (*O. pelicanum*), portrayed in our group, was obtained from a plant sent from Mexico by the Count Karwinsky, a valuable contributor of Mexican plants at Munich. The column has a very close resemblance to the pelican when pressing the breast as above described, in allusion to which, doubtless, the specific name has been given.

The *Oncidium* belongs to the Linnæan class *Gynandria*, and order *Monandria*, and to the natural order *Orchideæ*.

An interesting species (*O. bifolium*) was imported from Monte Video ; the labellum is large, of a beautiful rich yellow, the sepals and petals being small and brownish ; the flowers remain long in perfection. It will succeed on a block, but does best in a basket, with sphagnum, and peat, and potsherds, suspended from the roof, in a shady part of the house, where there is plenty of heat and moisture during the growing season ; afterwards it may be kept rather dry.

THE FUCHSIA-LIKE BEGONIA.

THE genus Begonia had its name given to it in honour of one Michael Begon, a native of France, who was born in 1638. He was Intendant of Marine, and a distinguished promoter of botanical science. The species are all ornamental plants, universally remarkable for the neatness of their foliage and their succulent habit.

The Tuberous Begonia (*B. tuberosa*) is a native of Amboyna, an island lying in the Eastern Archipelago, belonging to the Dutch, and remarkable as being devoted almost entirely to the growth of the clove, for which purpose it is admirably calculated. In order to confine its cultivation nearly exclusively to this island, they cause all clove-trees in other islands subject to them to be destroyed. This tree, the produce of which is of so great value, thrives most luxuriantly in a dark loamy soil, on hills, on sandy or hard clay soils, or on sedgy ground, and demands exceeding care in its treatment. It does not succeed well in situations near the sea. The clove-tree bears a close resemblance to a pear-tree, growing from twenty to forty feet high. In the Moluccas it is said to yield fruit when seven or eight years old,

but not until it is ten or twelve years old in the island of Amboyua. Nearly one-third of the trees are said to be unfruitful, while the remainder will bear until they are seventy years old. The fruit is gathered in the months of October and November. They are, as might be supposed, less productive in some years than others, but each tree will yield on an average from two to five pounds; the entire annual produce in former years is stated to have amounted to six thousand five hundred pounds.

The species which adorns our group is a native of the Ocana Mountains of New Granada, where it was discovered by Mr. Purdie. It is a most lovely addition to our floral treasures. It is very easily propagated by cuttings, grows rapidly, is clothed with small but abundant foliage. Its whole appearance is most beautiful, on account of its many elegant drooping scarlet flowers; at first we might suppose it to be a Fuchsia, from its close resemblance to that favourite shrub. The *Arrieros* (mule-drivers) of the country use it extensively for the purpose of allaying thirst. The plant grows with an erect stem to the height of two or three feet.

New Granada is a portion of the vast country of South America which is now known as Colombia, being united, in 1819, with Venezuela, in a republic under that name. It occupies the northern part of the territory of this republic, and, like the Pampas of Buenos Ayres, consists of savannahs or steppes devoid of large trees. These savannahs, in the rainy seasons, appear from the highlands as an unlimited extent of verdure, but in the time of drought they

are a complete desert. Humboldt observes that "there is something awful, but sad and gloomy, in the uniform aspect of these steppes." "I know not," he remarks, "whether the first sight of the *Llanos* excites less astonishment than that of the Andes. The plains of the west and north of Europe present but a feeble image of these. All around us the plains seemed to ascend towards the sky ; and that vast and profound solitude appeared like an ocean covered with seaweeds."

Speaking of the vegetable productions of Colombia, the same author, in the usual grandeur of his style, writes, "It might be said that the earth, overloaded with plants, does not allow them space enough to unfold themselves. The trunks of the trees are everywhere concealed under a thick carpet of verdure ; and if we carefully transplanted the *Orchideæ*, the *pipers*, and the *pothos*, which a single combaril, or American fig-tree, nourishes, we should cover a vast extent of ground." Nature seems to have been prodigal in investing this extensive country with vast fertility, both as regards vegetable and animal life ; and the waters which lave its coast abound in fish ; and at one period it is said that the pearl-fishery yielded pearls to the amount of half a million of dollars yearly. The Indians of Cariaco have a singular method of catching wild-fowl ; they leave calabashes always floating on the water, so as to accustom the birds to the sight of them ; and when they wish to catch any of these wild fowl, they go into the water with their heads covered each with a calabash, in which they make two holes for seeing through. They thus swim towards the birds,

throwing a handful of maize on the water from time to time, the grains of which scatter on the surface. The birds approach to feed on the maize, and at that moment the swimmer seizes them by the feet, pulls them under water, and wrings their necks before they can make the least movement, or, by their noise, spread an alarm among the flock.

The Begonia (*B. Fuchsioides*) is in the Linnæan class *Monœcia*, and order *Polyandria*.

LEADWORT.

Plumbago, *L.* Dentelaire, *Fr.* Bleywurz, *Ger.* Loodkruid, *Dut.* Plombaggine, *It.* Veleza, *Sp.* Dentellaria, *Port.* Liigtorneurt, *Dan.* Blyrot, *Swed.*

THIS beautiful blue flower, which has furnished a topic of discussion amongst florists, as regards its merits as a border-flower, for some years past, received the specific name *Larpenæ* out of compliment to Lady Larpen, of Rochampton, who introduced it into England from China. It is indigenous to the neighbourhood of Peking.

This plant grows from six to eighteen inches in height, bearing its flowers in terminal heads. The corolla is hypocrateriform, the limb being of a bright purple-blue colour. It is not many years since it was made known to the floricultural world in our island, but it increases so rapidly by cuttings, that it is a common plant in the gardens of those who are constantly seeking new flowers. Its flowers are remarkably attractive, but its successful cultivation depends so much upon almost accidental circumstances, that it seems doubtful whether it will become a general favourite. In China, the plant was found in a wild state on the city-walls of Shanghae, "growing out of the stone-work" and "on the raised ramparts," where,

we are told, it was highly ornamental. From this we infer that it naturally prefers dry rocky places subject to great summer heat, and that it is capable of bearing a low temperature in winter; and where these conditions are fulfilled, the plants will doubtless thrive and do well, but if it be subject to less favourable circumstances, it will probably disappoint the grower. This is figured in the group at page 19.

This Leadwort (*P. Larpentæ*) is in the Linnæan class *Pentandria*, and order *Monogynia*, and in the natural order *Plumbagineæ*.

THE END.

INDEX.

	PAGE
A Flowery Nook	<i>Keats</i> 45
Abolition of slavery, results of, in Jamaica	16
Aboriginal races of America, their condition	86
Aborigines of Australia described	74
Absurd practices in naming flowers	25
Address to a Lady working Tapestry	174
----- the Christmas Rose	<i>Anon.</i> 146
----- Poet's Narcissus	<i>Trounley</i> 171
Africa	115
Agriculture in New Zealand	125
Algiers	181
Alienation of tithes	150
Alpinia	45
America discovered by Columbus	83
Arabian Jasmine	84
Asiatic Russia	135
Austria	148
Barbadoes, island of	2
Barbary	130
Behring's Straits, when discovered	113
Bell-glass, its use	111
Blue Hepatica	168
Brazil, empire of	65
Broad-leaved Cistus	129
Bryant's Address to the Fringed Gentian	70
Buddhists of Japan	154
Buenos Ayres	54
Bunge's Rose Champion	134
Californian annuals, their cultivation	119
Candollea	73
Cape Town, Bishop (Grey) of	51
Caraccas, town of	144
Caribbee Islands	3

	PAGE
Carlisle's (Lord) Address to the Jasmine Tree	138
Carthage	131
Change in plants, Lines	49
Chili	95
China Proper	7
Chinese Hypericum	6
Chinese notion of a garden	7
Christmas Rose	145
Church reform needed	150
Climate of Chili	95
———— Italy	150
———— New Zealand	125
———— Persia	72
———— Russia	137
Commelina	141
Concrete-styled Flax	124
Crested Gentian	69
Crimson Hibiscus	10
Cultivation of Heaths	164
———— the Superb Lily	21
Curled-flowered Jasmine	138
De Diaz, discoverer of the Cape of Good Hope	50
Defective education in England	150
Dendrobium	31
Desert of Sahara	130
Diamonds of Brazil	66
Distinct races in Africa	116
Drummond's Oenothera	37
Earthquakes frequent at Lima	62
East Indies, vagueness of the name	3
Echeveria	24
Education in Austria	148
Erica Ampullacea	161
Farming in Texas	39
Fathers, Pilgrim	91
Fertility of the soil in Morocco	80
Flask-like Heath	161
Flora of Australia	74
Flower fence	1
Flowers, Lines on	<i>B. Barton</i> 146
———— Poets'	<i>H. C.</i> 37
Formation of roots	111
Fringed Epidendrum	17
———— Gentian	70
Fuchsia-like Begonia	186

	PAGE
Gillies's Portulaca	108
Gold discovery in Australia	75
Good Hope, Cape of	50
Greenhouse, pleasure to be derived from .. .	9
Hampton Court	35
Hartweg, Mr.	26
Hepatica, emblem of constancy, Lines	<i>Anon.</i> 170
Hindrances to education in England	150
———— the spread of the Gospel among the heathen	91
Hindia	181
Hoang-ho, or Yellow River, of China	12
Horsfall's Ipomœa	114
Hungarians	101
Hungary	100
Ignorance and intelligence compared	19
Immutable customs of the Chinese	8
Indian Jasmine	34
Inhabitants of Mexico, their condition	27
Isle of France	46
———— Wight	3
Ismene	61
Jamaica, the climate of	15
Japan, empire of	127
———— Quince	152
Jasmine Tree, Lines on	<i>Twamley</i> 140
Jessamine, Address to	<i>Jane Taylor</i> 140
Kaffirs	51
Labours of the Bishop of Cape Town	51
Ladies of Lima, beauty and dress of	63
Large-flowered Impinel	79
Leadwort	190
Lima	61
Lindley's Oenothera	86
Lines on the Aconite	<i>Anon.</i> 157
———— Poet's Narcissus	<i>Keats</i> 172
Lisianthus	41
Mackenzie, the river	85
Madia, the Elegant	90
Manioc of Brazil	67
Marsh Gentian	70
Mauritius, island of	46
Melbourne, Bishop (Perry) of	77
Mexico	26
Milton's Lines on the Amaranth	105
Mineral products of California	122

	PAGE
Mississippi, the river	85
Monarda	82
Morocco, the country so called	80
Motives to emigration	77
Nature, Lines on <i>Sir R. Blackmore</i>	42
Nepaul, Hindostan	107
New Holland	73
New Zealand	124
North America	84
North-western coast of America	113
Oncidium Pelicuum	183
Organ Mountain	65
Oswego tea	82
"Our Aborigines," Lines <i>Mrs. Sigourney</i>	88
Pasque-flower Anemone	178
Paul and Virginia	48
Peacock's Crest	5
Peat-earth, what it is	43
Persia, empire of	71
Pierpont's Lines on the Pilgrim Fathers	91
Pitcairnia	65
Poet's Narcissus	171
Poinclana, the	1
Poppy Anemone	178
Propagation of greenhouse plants	109
———— Heaths	164
Rampion Bell-flower	99
Red Jacket's Address to a Missionary	92
Remarks on medicinal plants	41
Rimac, river	61
Rock Rose	129
St. Geran, shipwreck of	46
St. Lawrence, the river	85
Scarlet Ipomœa	174
———— Monkey-flower	112
Showy Amaranth	105
Sion House	4
Siphocampylos	57
Sisyrinchium	94
Soy	128
Spreading Campanula	97
Star Anemone	178
Stormy Cape	50
Stove plants, treatment of	57
Streptanthera	49
Superb Lily	19

	PAGE
Sweet-scented <i>Epidendrum</i>	14
Tapioca, whence imported	67
Texas, country of	8
The Alpina	15
The Arabian Jasmine	34
The Blue Begonia	168
The Botanical Collector, notes	1
The Broad-leaved Cistus	129
The Candollea	73
The Cape Colony	51
The Chinese empire	12
————— <i>Hypericum</i>	6
The Christmas Rose	145
The Commelina	142
The Cornered-leafed Flax	124
The Crested Gentian	69
The Crimson Hibiscus	10
The Cuck-flowered Jasmine	138
The Dendrobium	51
The Echeveria	71
The Elegant Indian	91
“The Fairies’ Fire” <i>Faerie</i>	141
The Ismene	61
The Japan Anemone	177
The Japan Quince	152
The Jasmine Flower, poetry <i>Poem</i>	4
The Large-flowered Pimpernel	79
The Lisianthus	41
The Monarda	82
The Nemophila	119
The Pitcairnia	65
The Poet’s Narcissus	171
The Poinciana	1
The Scarlet Ipomoea	174
————— <i>Monkey-flower</i>	112
The Siphocampylus	57
The Sisyrinchium	94
The Spreading Campanula	97
The Snowy Amaranth	195
The Streptanthera	49
The Superb Lily	19
The Sweet-scented <i>Epidendrum</i>	14
The Tournefortia	54
The Trailing Lobelia	159
The White-margined Funkia	127

	PAGE
The Wind-flower	177
The Winter Aconite	155
Theological notions of the Japanese	153
Tuberous-rooted Ipomœa	114
Tuscany, Grand Duke of	35
Use of bees	98
Vidal's Campanula	100
Wallachians and Magyars	103
White-margined Funkia	127
Winter Aconite	155
Wood Anemone	177
Yang-tse-Kiang, or Son of the Ocean, river, China	12
Yellow Gentian	70

